DOCUMENT RESUME

ED 398 431 CE 072 304

AUTHOR	Ni Cheallaigh, Martina
TITLE	Apprenticeship in the EU Member States. A Comparison. CEDEFOP Document. First Edition.
INSTITUTION	European Centre for the Development of Vocational Training, Berlin (Germany).
REPORT NO	ISBN-92-827-4265-2
PUB DATE	95
NOTE	108p.
AVAILABLE FROM	UNIPUB, 4611-F Assembly Drive, Lanham, MD 20706-4391; 800-274-4888; fax: 301-459-0056 (Catalogue No. HX-89-95-5994-EN-C: 8 European Currency Units).
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	*Apprenticeships; Comparative Analysis; Corporate Support; *Educational Finance; Educational Research; Education Work Relationship; Experiential Learning; Foreign Countries; Postsecondary Education; *School Business Relationship; Trade and Industrial Education; Work Experience Programs
IDENTIFIERS	*European Union

ABSTRACT

A study compared a number of features of apprenticeships in the 12 Member States of the European Union. The study showed that the apprer.ice contract or indenture has become an integral part of apprenticeship in all Member States. Admissions requirements for access to apprenticeshp, in general, are not high. Although it was an option open to those who had completed lower secondary education, the average age of entrants is rising. The role of the social partner organizations varies by country. Likewise, a sizeable imbalance exists between countries concerning the variety of occupations for which apprenticeship is provided. In the majority of countries, apprentices are concentrated in small and medium-sized enterprises. General educaton has become an important element of the school-based tuition given to apprentices. The average length of an apprenticeship is usually 2-3 years. The financing mechanism is a complicated procedure involving investment by the state, company, and individual. Efforts are being made to encourage apprentices to develop their competence and attain recognized qualifications. In general, annual intakes of apprentices over the last decade in most countries has decreased. The conclusion is that at least 12 distincat apprenticeship systems still exist. (Appendixes include alternate training initiatives, legislation affecting apprenticeship in Member States, responsible bodies and certificates, lists of sectors represented, glossary, and 77-item bibliography.) (YLB)

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Apprenticeship in the EU Member States

A comparison

European Centre for the Development of Vocational Training

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Apprenticeship in the EU Member States

A comparison

Martina Ní Cheallaigh
CEDEFOP, Berlin

First edition, Berlin 1995

Published by:

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The Centre was established by Regulation (EEC) No 337/75 of the Council of the European Communities, last amended by Council Regulation (EC) No 251/95 of 6 February 1995 and Council Regulation (EC) No 354/95 of 20 February 1995.

Cataloguing data can be found at the end of this publication

Luxembourg: Office for Official Publications of the European Communities, 1995

ISBN 92-827-4265-2

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Printed in Belgium

PREFACE

Through this publication, CEDEFOP wishes to respond to the need to provide comparative information on the apprenticeship systems in the Member States of the European Union. Apprenticeship has a long history and has undergone varying fortunes. There is, as this volume shows, a general trend to modernise and strengthen apprenticeship systems even in countries where their tradition is not strong. The value of learning both on the job and in an educational institution also seems to have universal acceptance.

The spadework for this comparison was carried out by the Members of the CEDEFOP Documentation Network in the EU Member States (see annex 1). The information was collected in 1994 on the basis of a questionnaire sent, by CEDEFOP, to each network member, in the then twelve Member States. This questionnaire provided the structure for a uniform collection of data on the apprenticeship system in each country.

The national reports are being published in a separate volume, in English, in the CEDEFOP Panorama Series. The comparative part is based on an analysis of the country contributions and the available literature on apprenticeship. It is also published in French and Spanish.

When reading this document, the following points should be remembered:

a) a list of abbreviations and definitions is included in annexe
b) the Spanish apprenticeship system is not yet fully operational and since no previous form of apprenticeship, as defined here, existed in Spain, many of the statistics and tables etc. lack data on Spain
c) the new apprenticeship systems in the UK and Ireland are still in a pilot phase which means that most of the analytical data refers to the old systems and cannot be seen as a measure of the effectiveness of what is currently being put in place
d) the expression UK or United Kingdom is used throughout the text, but Modern and Accelerated Apprenticeships are limited to England and Wales for the moment
e) the order of the countries in tables is as follows:

B	-	Belgique	IRL	-	Ireland
DK	-	Danmark	I	-	Italia
D	-	Deutschland	L	-	Luxembourg
E	-	España (Spain)	NL	-	Nederland
F	-	France	P	-	Portugal
GR	-	Greece	UK	-	United Kingdom

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Introduction

Apprenticeship is one of the oldest forms of training. During the Middle Ages it has its golden age under the guilds. Then, it was a system of training which combined observing good practice with learning-by-doing. The mastercraftsman took on an apprentice who served his time until he was competent enough to produce his own "masterpiece". Today, apprenticeship is a highly regulated form of alternance or alternating training, comprising periods of training on and off-the-job. It is distinguished from other forms of alternance by the existence of a training contract between the employer and the apprentice. The apprentice receives practical training in the company under the guidance of the employer or an appointed supervisor. He or she attends a school or training centre (hereafter referred to as school or school-based training) where additional theoretical training is imparted and, usually, an element of general education.

Apprenticeship underwent a revival in many countries after World War Two. As the economies started to recover, there was a boom in the manufacturing and construction industries, two sectors traditionally most closely associated with apprenticeship. This is reflected in the works of Williams (1963) and the ILO (1966) which were possibly the first attempts to describe apprenticeship in Europe. This situation prevailed until the mid 1960s at which time the secondary sector began to lose out to the tertiary sector which was gaining ground. The early 1970s saw a further decline in manufacturing due to recession caused by the oil crisis of 1973, coupled with the decline in manual labour which resulted from widespread introduction of new technologies.

Unemployment increased as a result of recession and reconstruction. When Parkes wrote "Craft Apprenticeship in Europe", 1979, it was against the background of growing youth unemployment and the development of new forms of alternance which were being developed to offer new opportunities to young people. Such initiatives were trendy and innovative and provided a threat to apprenticeship which at the time was being criticised for being rigid and inflexible, long and costly, for exploiting young people as cheap labour, and for providing poor-quality, uncoordinated training.

In 1976 an OECD expert group concluded that apprenticeship "had substantial virtue in that it gives operational reality to the concept of closer relationships between education and working life" but specifying several of the defects mentioned above. These issues were further developed in "Policies for Apprenticeship", OECD, 1979, which analyzed the then trends in apprenticeship and in policies for apprenticeship in member countries, as an aid to governments contemplating change.

By 1987, Jallade, in his report on apprenticeship for the DG V of the EC Commission, came to the conclusion that apprenticeship could have a positive future if suitably adapted to current needs of young people, for three reasons: it contributes to the diversification of the post-compulsory training offer; it is a form of alternance which reinforces co-responsibility between public authorities and social partners; it is a gradual and progressive form of entry into working life which sensitizes youth and involves the enterprises.

Currently, apprenticeship is again high on national training agendas. It, therefore, seems an opportune moment to investigate how and if it has been remodelled to take account of many of the criticisms which have previously been made. The main part of this document will examine, in detail, a number of features of apprenticeship and how they compare in the different countries. The final part will come back to the criticisms mentioned above to see to what extent these and other shortcomings have been remedied, and point out some of the trends and prospects for the future.

In all but a few countries there have been reforms in recent years, if not new legislation which totally revamped the system (**Denmark** and **Greece** 1989, **Luxembourg** 1990, **Portugal** 1991-92, **France** 1987 and 1992-93, **Ireland** and the **Netherlands** 1993, **Spain** and **United Kingdom** 1993-94). In **Germany**, although the fundamental legislation remains unchanged, the system has been extended to the new Länder in **eastern Germany**, the number of occupations for which apprenticeship is provided has been revised downwards and the training content and methods have been reviewed in the light of changes in occupational profiles. Apart from the **UK**, apprenticeship in all EU Member States is governed by legislation. A list of legislation currently in force in given in annex 5.

The motivation behind reforms and government policy on modernising apprenticeship is recurrent in most countries. The driving forces behind the changes are primarily: to provide young people with suitable qualifications to enable them to participate immediately in the production system; to adapt training to the needs of new technologies and new forms of work and work organization; to improve the relationship between school and industry; to cover a wider spectrum of qualifications; to engage large enterprises as well as SMEs in the process; to adapt training content and methods to occupational reality, for instance reducing the duration of apprenticeship by avoiding time serving.

The apprenticeship systems compared

Apprenticeship contract

The apprenticeship contract or indenture has become an integral part of apprenticeship in all Member States. It is this contract which distinguishes it from other forms of alternating training. In all twelve countries the contract is a written, legally binding document drawn up between the apprentice and the employer. It lays down the obligations and entitlements of both parties and in most cases a probation period of one to three months is included during which either party can terminate the contract without justification. The contract specifies the duration of the apprenticeship, remuneration, the amount of time the apprentice is to work in the service of his/her employer and the amount of time he/she is to be freed from employment to attend off-the-job and theoretical training. As a rule, employment cannot commence without a contract but in countries in which apprenticeship begins with a school-based foundation year the contract will not be negotiated until the second year.

In some countries (**Denmark**, **France**, **Germany**, **Netherlands**), although the contract is with one employer, this does not prevent the apprentice from spending time in another company acquiring skills and experience which the contractor is unable to supply. In **Belgium** and **Denmark** it is possible to conclude successive contracts with several undertakings where this is necessary in order to learn the occupation. In **Portugal** reforms are being discussed to include this option in an effort to improve polyvalence.

The apprenticeship contract generally gives the apprentice the status of employee during the time spent in the company. The exceptions are **Ireland**, **Greece** and **Portugal** where they are always considered trainees. The same is true in **Luxembourg**, apart from apprentice sales personnel and dental assistants who also have employee status.

In **Belgium**, the contract is a very detailed document which can only be ratified by the Institutes for the "Middle Classes" of both Communities or the Enterprise Council for industrial apprenticeship. In **Denmark**, the apprenticeship contract is always in writing and it must be drawn up on a special form approved by the Ministry of Education. However, it is the vocational schools which procure the in-company training places, hitherto this was the task of the Employment Service. It incorporates a clause stipulating the obligations of the vocational school. If the apprentice is not of age, parental consent is required to enter into an apprenticeship contract.

In **Germany**, contracts are the prerogative of the Chambers. An interesting feature of the German system is the flexibility allowed to change direction during apprenticeship. Although the contract is drawn up with one employer in a particular sector or occupation, if the apprentice decides to change occupation during his training contract, this is permitted. The contract recognises the joint status of the apprentice as trainee and employee. One of the worries about the implementation of the new

apprenticeship system in **Spain** is the fact that it has not been tested or piloted to sort out the administrative and implementation problems. The Law mentions that notice of termination of contracts should be communicated to INEM. Contracts are registered at the Employment Office.

In **France**, the Law of 16 July 1971 made the apprenticeship contract a variation of the employment contract. Successive contracts permit access to all levels of vocational qualification. Contracts are registered by the Departmental Committee for Employment and Vocational Training in the Département concerned.

In **Ireland**, the employer can draw up the apprenticeship contract with an apprentice but must inform FAS of the recruitment. If for reasons of redundancy the employer cannot continue the contract, he/she must give FAS written prior notice and must take reasonable steps to have his/her obligations under the apprenticeship contract transferred to another employer. In the case of agriculture, the Farm Apprenticeship Board enforces the terms of the contract. In the hotel and catering industry the contract is between the apprentice and CERT as the employer.

In **Italy**, the apprenticeship contract is in effect a labour contract. Although it obliges the employer to ensure that the young person acquires an occupational qualification, the catch is that the characteristics of the qualification are rarely predetermined. The paradox in Italy is that the apprenticeship contract has no more than a 'Pro Forma' value, despite there being over half a million young people implicated. The contracts are under the responsibility of the Ministry of Labour.

Applications for training contracts in **Luxembourg** are made to the vocational counselling office at the Employment Service. The contract is drawn up and registered by the Chambers of Private Employees, and a copy is deposited with the Chamber competent to act for the apprentice, i.e. the Chamber of Commerce, Chamber of Crafts, Chamber of Agriculture, or Chamber of Workers . If the apprentice is a minor, the contract is also signed by his/her legal representative.

In the **Netherlands**, the apprenticeship contract is administered by the National Board responsible for the particular industry or sector. 28 of these sectoral boards are financed by the Ministry of Education, plans exist to reduce them to twelve. The other three depend the Ministry of Agriculture, Nature Management and Fisheries. The National Board draws up the contract which it then signs along with the school, the employer (or the legal representative of an association of several firms), and the apprentice or apprentice's legal representative, in the case of a minor. In most cases an additional contract of employment is also entered into between the apprentice and the company which regulates hours of work, pay and conditions of employment.

Responsibility for apprenticeship contracts in **Portugal** is entrusted to the Institute for Employment and Vocational Training (IEFP) and its regional departments. In the **UK** the Training and Enterprise Councils (TECs) will take over this role. The contract is with one company but apprentices may well move around a company's subsidiaries or departments, depending on the nature of apprenticeship chosen. In recent years

the formal contract had become less common with apprentices receiving limited employment contracts and verbal guarantees of a training programme, or the better YT trainees are kept on to complete an apprenticeship.

Conditions of entry

In general the admission requirements for access to apprenticeship are not high, it suffices to have completed lower secondary education. In **Belgium** and **France** apprenticeship is seen as a vocational route for lower-ability youth. The numbers participating in Belgium are not significantly high, approx. 4% of post-lower secondary pupils and since the introduction of obligatory part-time compulsory education until the age of 18, the educational level of apprentices has improved. However, in **France** apprenticeship accounts for 30% of all young people in 2nd cycle vocational education. A recent report from the French government to the parliament highlights the need to improve the image of apprenticeship and to upgrade the calibre of the trainers. In the Netherlands it is also seen as a path for people with no qualifications and early school leavers, however, the percentage having undergone lower secondary vocational education (LBO) is now falling and the numbers entering from lower (MAVO) and upper (HAVO) general secondary education are rising.

This is in stark contrast to **Denmark** and **Germany** where apprenticeship is highly regarded and efforts are being made to give it equal status with the academic educational route. Despite the fact that in **Germany** a school certificate is not a prerequisite for entry into apprenticeship, employers are much more likely to select candidates who have them than those who do not. One in five apprentices had an "Abitur" in 1991 (Tomforde, 1992). In the **UK** the 1991 White Paper "Competitiveness: helping business to win" (May 1994) also called for the removal of "the remaining barriers to equal status between the so-called academic and vocational routes."

In most countries apprenticeship is a post-compulsory education option for 16+ year olds but as we will see below, the average age is rising. In **Ireland** although apprenticeship is open to young people from sixteen upwards, those who have not completed their school leaving certificate have less hope of a place in apprenticeship because it is a much sought-after training path by the cream of those leaving upper secondary school who have not qualified for or have no interest in higher education.

- ***Age of entry***

While apprenticeship is on the whole an option open to those who have completed lower secondary education, there is evidence that the average age of entrants is rising (see table 1). In **Denmark** there is a higher proportion entering apprenticeship after completing upper secondary school, however, most apprentices start after lower secondary education but at 17 not 16 years now due to the problems of finding an apprenticeship place in a company. In **Germany** the average entry age is 19 years and in **France** it has risen from 17.5 in 1987 to 18.3 in 92/93 while the basic level of

education at entry rose accordingly. The **Netherlands** is a forerunner in this direction with only 6 % of its apprentices now starting at 16, 49.8 % between 17 and 19 and 44.2 % over 20. This is due in part to the fact that the apprenticeship system has been extended to include the unemployed. In the **United Kingdom** alongside the "Modern Apprenticeships", the White Paper "Competitiveness: Helping Business to Win" announced the establishment of "Accelerated Modern Apprenticeship" for 18 and 19 year olds with vocational or academic A-levels (Insight, Summer 94, p. 8). The **UK** is now unique in reserving apprenticeship to school leavers (16-19 years old).

Singer and MacDonald (1970, p. 33) were of the opinion that "the exclusiveness, by which men find it difficult or impossible to enter jobs unless they have served an apprenticeship at an early age, will come increasingly under attack". Although apprenticeship is now open to candidates at least up to their mid-twenties in eight countries, the tendency is still to embark on an apprenticeship immediately on leaving school or as soon as a place becomes available. In effect there is still much "front-end loading" in most countries. Pressures from the unions to restrict apprenticeship to youth have abated but the competition for the places which exists militates against adults being accepted. More importantly, there remains the problem for employers that adult apprentices with previous work experience will need to be paid a minimum wage. This is why in **Luxembourg**, although there is no age limit, adults are only accepted on rare occasions when skill shortages require it and the employer is prepared to pay the minimum wage.

Raising the age of compulsory education has affected the age of entry to apprenticeship, since, as a form of training providing only part-time schooling, entrants must have reached official school-leaving age which in most countries is now 16, with the exception of **Portugal** and **Ireland** where it is 15, **Italy** 14 and **Greece** 14.5, and **in Belgium**, **Germany** and the **Netherlands** part-time education is compulsory until 18 (see table 2). In fact the OECD (1989, p. 57) found that "one, and in some cases more than one, year of post-compulsory education is now the norm" in most countries, the **UK** being a notable exception (see table 3).

Table 1 - Age of entry to apprenticeship

Legal requirements			Average Age or Modal Group
B	15 - 18 15 - 21	16 commerce/sales in industrial apprenticeship	15 - 18
DK[1]	16 - 25		17 - 20
D	17 -		19
E	16 - 25		--
F	16 - 26		18.3
GR	15 - 18 15 - 23	except Graphic Arts 17 - 20 mechanical, electrical & electronic draughtsmanship, automation technician, hairdressing, pottery and ceramics	15 - 18
IRL	16 - 25	(hotel and catering minimum 17, bar service and agriculture minimum 18)	17 - 21
I	14 - 20		15 - 20
L	15 -		15 - 18
NL	16 -		17 - 19
P	14 - 24		15 - 17
UK	16 - 19		16 - 18

[1] special provision is made for people over 25

Table 2 - Age of compulsory education

Country	Compulsory until (*)
Belgium	16 (18)
Denmark	16
France	16
Germany	16 (18)
Greece	14.5
Italy	14
Ireland	15
Netherlands	16(18)
UK	16
Spain	14 (16)
Portugal	15[1]
Luxembourg	15

* the age in brackets refer to part-time compulsory education

Source: EURYDICE 1993

[1] For those who started school since 1987, previously 14

Table 3 - School attendance from 15-19 years in some European countries

	14 %	15 %	16 %	17 %	18 %	19 %	20 %	21 %
Belgium	98.7	97.3	93.5	88.3	47.0	23.1	16.9	0
Denmark	93.5	96.7	91.1	78.8	67.9	46.2	25.7	15.7
France	93.9	94.7	92.0	86.4	57.2	31.6	10.6	2.6
Germany	92.9	94.5	93.6	92.4	79.6	53.5	29.0	15.4
Greece*	-	82.1	76.2	55.2	43.6	30.9	-	-
Ireland	95.9	95.1	85.1	64.7	28.8	0	0	0
Italy*	-	95.5	83.9	66.4	39.6	24.7	-	-
Luxembourg	-	-	-	-	-	-	-	-
Netherlands	98.9	99.2	97.2	90.0	67.4	41.5	24.5	14.1
Portugal	60.3	65.3	63.4	58.9	36.5	20.7	12.6	4.9
Spain	99.5	89.0	73.5	63.9	34.6	19.6	10.2	8.5
United Kingdom	101.2	100.1	62.4	43.1	12.3	3.4	1.4	0.9
Finland	99.8	99.6	92.9	85.7	71.6	24.1	14.9	14.0
Norway	97.9	100.0	91.7	84.7	74.2	33.5	16.9	11.1
Sweden	99.2	96.9	86.0	85.3	54.7	10.0	2.5	1.7
Switzerland	92.2	91.4	86.9	85.1	75.2	50.2	21.5	8.9

* Data for 1990

Source: Education at a Glance: OECD Indicators, Paris, 1993

Role of the social partner organisations

Apprenticeship provided the origin and the original platform for the involvement of both sides of industry in training. The employers provided the training and the apprentices, although they were trainees, also had an employee function because they worked and contributed to production and were remunerated for their time. It was obvious then that from their creation trade unions would take an interest in apprentices. On the one hand they looked after their welfare, just as for other workers, but they also fought to protect the rights and wages of full-time workers who could be replaced by apprentices exploited as cheap labour by employers. On the other hand, particularly in the **UK** (Williams, 1957), the unions were fixed on the idea of apprentices serving out their time before bestowing on them the rank of skilled worker, thus preserving the status quo within the profession. They now accept that qualifications and certification are important and can be acquired in a variety of ways.

Viprey (1994, p. 20), identifies the areas where the social partners exercise responsibility. At sectoral level, professional organisations and sector-specific trade unions are involved in defining occupational classifications, and there is a strong link between the external validation of diplomas and classification. Some branches get involved in evaluation. At operational level they participate in collective agreements and at company level in negotiation on training plans and staff training. **France** in particular has legislation to this effect. In countries where responsibility for training is decentralised, the social partners are often involved in apprenticeship at local level. The apprentices are looked after by the works' councils while in the company in **Belgium** and **Germany**. In **France** the employer must consult the works' council before taking on an apprentice.

In **Belgium**, the social partners play a back-seat consultative role through representation on advisory bodies. Inertia in the education system and the gap between the level of training and finding suitably qualified staff to provide it has compelled the government increasingly to involve both sides of industry. Through the Institutes of the "Middle Classes", SMEs have a substantial role, particularly in apprenticeship which they dominate. Employer organisations, such as FABRIMETAL, are strong in training at sectoral level. A Joint Apprenticeship Committee, consisting of the social partners, was set up to implement industrial apprenticeship.

In **Denmark**, the social partners have a decisive role in the running of the apprenticeship system and indeed in the whole training system. They have a special competence to control and monitor at all levels: preparing laws, setting objectives and frameworks, modernisation, and influence on both the practical and school-based parts of courses. They are represented in the Vocational Education and Training Council which is an advisory body making recommendations to the Minister of Education. Besides, they are represented on the sectoral Trade Committees at national level, on the Local Education and Training Committees at school level, and on the school governing boards. The role of the social partners is very important as it ensures that labour market approval of courses is guaranteed all over the country by both sides of the industry.

In **Germany**, participation of the social partners in initial training, the majority of which is delivered through the dual apprenticeship system, occurs in a great variety of ways: in public debate and lobby groups; as suppliers in the market of training services, policy-making; exercise of public authority (e.g. representation on the Central Committee of BIBB and Federal Labour Office); public responsibility of controlling that the system fulfils a variety of functions both for the State and for the social partners themselves; collective bargaining and co-determination at the workplace; regulatory functions - setting examinations, mobilization of financial resources, implementation and administration, as well as supervision and control. The extent of participation is relatively equal at national and sectoral level. At regional level the Chambers dominate, notwithstanding the unions' representation in specific areas. This is why the unions demand parity co-determination in the Chambers (CEDEFOP, 1990, p. 45-55). Generally in countries where the Chambers are strong such as **France** and **Luxembourg**, they play a leading role, particularly at organisational level.

In **Spain**, the activity of the social partners in vocational training was almost non-existent until 1984 when the "Economic and Social Agreement" reached a pact on their cooperation in the field. Since then advances have been rapid. They now participate in collective bargaining. There is a lack of trust between trade unions and employers' organisations which is not helped by the lack of experience in cooperating on forms of alternating training. The latest example of conflict was in January 1994 when the trade unions organised a one-day strike against the introduction of the new apprenticeship law which they felt would only provide employers with a new form of cheap labour, and thus jeopardise the generation and security of permanent employment for their members. Employer organisations are doubtful about apprenticeship because financially it will be an extra burden on employers.

In **France**, decision-making takes place at state level. However, training rules and regulations do give the social partners considerable and precise means for influencing decisions via tripartite and consultative bodies. In apprenticeship the public authorities are the key figure. The regions bear general responsibility, the state has specific responsibilities. The social partners are involved by law in the Apprenticeship Training Centres (CFAs).

Greece has no history of collective bargaining and the principles of co-determination and industrial democracy there are in their infancy. However, the social partners are represented on the Management Board of the OAED (Manpower Employment Organisation) which operates the apprenticeship schools. They are also represented, along with the various ministries on local government and educational bodies, on central and regional committees which also provide feedback to the OAED.

In **Ireland**, the Board of FAS which has (inter alia) statutory responsibility for apprenticeship, is itself representative of the social partners. The National Apprenticeship Advisory Committee (NAAC) set-up to oversee the development and implementation of the new apprenticeship system as well as to advise the Board, is made up of representatives of the social partners in industry, the education sector and

FAS. The social partners are also among the subject experts who are planning and will review and update the curricula. They are also involved in apprenticeship in the hotel, catering and tourism and agriculture sectors.

In **Italy**, the main role of the social partners is to stipulate the level of employment apprentices undertake and thus their wages.

In **Luxembourg** the social partners are entrusted with many administrative powers: they confer and withdraw the right to train apprentices; they draw up the practical training programme and collaborate on theoretical training programmes; design the examinations; deliver certificates jointly with the Ministry of Education; control training contract procedures; and they are represented on the commission coordinating secondary vocational education and its cooperation with the enterprise.

Until the early 80's, the **Netherlands** was very similar to France, with domination of the school-based system by the state and educational umbrella bodies. The apprenticeship system was the only type of training in which the role of the social partners was embodied in law. The central agreement between the trade unions and employers' organisations, reached in the Joint Industrial Labour Council in 1982 and the publication of the Wagner Committee's recommendations regarding vocational education and consultation between industry, government and educationalists brought about all-round social partner involvement (CEDEFOP, 1990, p. 165). Since then policy has concentrated on gearing vocational education more closely to the needs of industry, including strengthening apprenticeship. Both social partners are responsible for formulating the attainment requirements and targets for upper secondary vocational education (MBO) and apprenticeship. Employers' and employees' representatives together form two-thirds of the National Boards. Their role will be even greater in the future.

In **Portugal**, the social partners have had little experience of training until the creation of the tripartite Institute of Employment and Vocational Training (IEFP) and its regional centres. The IEFP has been delegated responsibility for management of apprenticeship by the National Apprenticeship Committee which is also a tripartite body, representing the social partners and all the ministries involved in apprenticeship. In 1986, a survey of the collective bargaining showed that vocational training is hardly ever a subject for negotiation between the social partners. Trade unions in Portugal are, traditionally, organised locally. In 1984 they numbered 352, the majority are small and although two confederations were formed in the 1970s the system is not centralised. This explains the lack of innovation and training provision by the trade unions themselves (CEDEFOP, 1990, p.183, 187).

Because of the reluctance of government to intervene in training in the **UK**, the social partners, particularly employers, have had the field to themselves. In 1964 the Industrial Training Boards were set up with a tripartite membership, in an attempt "to enforce virtuous activities on employers" (Donnelly, 1994, p. 20). They were biased towards large companies and SMEs claimed they derived no benefit. Each board tended to set up its own requirements and there was little attempt at central

certification. They encouraged active cooperation between the Trade Union Congress and the Confederation of British Industry (CBI). All but a few, e.g. engineering (EITB), construction (CITB), have been disbanded.

In 1989 when the government set up the TECs, the trade unions were excluded from their make-up, as the result of a rift created by the dissolution of the Manpower Services Commission and the row over the introduction of Employment Training (the training programme for adults, now called Training for Work) thus returning to the employers a monopoly on training. The TECs will be responsible for the Modern and Accelerated Apprenticeship currently being piloted but the trade unions are to become involved in the process. The TUC favours the creation of a national agency to bring together all relevant organisations (idem, p. 22). The employer-based Industry Training Organisations (ITOs), working with the TECs, are designing the Modern Apprenticeship prototypes for the individual sectors.

Delivery of training

- ***Companies***

Although large companies are generally the best trainers (Roche/Tansey, 1992; Training in Britain 1989), they tend to organise training independently for their own recruits and employees. It has been difficult to involve large companies in apprenticeship, **Germany**, **Denmark** and the **UK** being exceptions. While in **Denmark** small companies dominate, but large companies also train apprentices, in the **UK** apprenticeship has usually been the preserve of large industries which have always invested more in training than smaller companies. This is partly to do with the concentration of apprenticeship in large manufacturing and construction industries. Modern Apprenticeship will try to encourage small companies to participate. In **Italy** large companies have opted out of apprenticeship under the influence of the unions (Pescarollo, 1979, p. 78). In **Belgium** a separate form of industrial apprenticeship set up especially to involve large companies has only attracted circa 3,000 apprentices since its introduction in 1983.

Small and very small companies clearly predominate in many countries because apprenticeship is still very much rooted in the craft industries which are traditionally small. In **Belgium**, craft apprenticeships are confined to enterprises of less than 50 employees. In **Ireland**, **Luxembourg** and **Greece** the predominance of SMEs in indigenous industry, is reflected in the size of companies involved in apprenticeship. In **Portugal** currently 44.6% of companies taking on apprentices have fewer than 10 employees, while 58.5% have up to 20 employees. In France (92-93) 18.5% of companies employing apprentices had no employees, 40.3% had 1-4 employees, 20.2% 5-10 employees, and 21% 10+ employees. Also in **Germany**, the smaller craft industries are faithful trainers. In 1990 there were 478,000 apprentices in these industries, corresponding to 14.1% of all employees employed therein. The number of apprentices in industry and trade was 756,000 but as a percentage of all employees, their number only amounted to 4.9% (Franz/Soskice, 1994, p. 9).

Table 4 presents the type of company eligible to take on apprentices according to current regulations in each country.

Table 4 - Companies eligible to provide training

B	Small and medium-sized enterprises or self-employed individuals, in exceptional cases large companies participate
DK	Companies with a full range of activities, tasks and technology corresponding to a skilled worker qualification, approved by the relevant Trade Committee. 20% of all companies participate.
D	There are circa 400,000 "training" companies in Germany, i.e. they have a mastercraftsman or equivalent in their employment, qualified to tutor apprentices.
E	Companies with a minimum of 5 employees.
F	Any company can recruit an apprentice, the apprentice must register with the CFA. Large industries may have their own internal training.
GR	Private or public sector, family business, joint stock partnership or limited company.
IRL	Any company which has an experienced crafts person and the necessary range of work, tools and equipment for their trade.
I	No guidelines available.
L	Any industry, artisan or businessman recognised as a training company by the relevant Chamber.
NL	Variety of companies screened by the National Boards.
P	Firms, organisations, cooperatives, professional associations, private benefit societies and other non-profit making organisations which are duly registered and have no debts.
UK	In the future, they will be chosen by the TECs who are themselves employer-based.

- ***Training delivered by companies***

Belgium: As companies are small, sometimes one person, it is usually the owner/manager who is responsible for the apprentice. No training is required for this role. The apprenticeship secretary from the Institute of the "Middle Classes" is responsible for overseeing and coordinating on-the-job training. It is therefore quite an introverted system dominated by the employers.

Denmark: The Trade Committees must ensure that apprentices receive a good all-round training. Formal requirements for the instructors providing on-the-job training do not exist, no form of training of trainers programme is provided for this purpose.

Germany: Cooperation of both school and company is fixed by a training ordinance, developed by the BIBB with the participation of the social partners and put into force by the Federal Government making it binding in all Länder. Training is carried out by a mastercraftsman or similar employee who has completed further training to qualify him/her to instruct apprentices. This qualification is laid down by decree (Ausbildereignungsverordnung). In small companies training takes place on-the-job, whereas large companies have training centres exclusively designed for training and not for producing goods for sale. Smaller firms can sometimes send apprentices to interplant training centres jointly funded by local Chambers of Commerce and the Federal Ministry of Education and Science.

Spain: In Spain the tutor, a fellow employee, will take responsibility for the apprentices in his/her charge.

France: Each apprentice is supervised by an instructor who can be the director of the company or an employee who has a diploma at least equivalent to that being pursued by the apprentice and a minimum of three years professional experience. If he/she has no diploma, then five years professional experience are required as well as justification of his/her level of qualification.

Greece: In Greece the apprenticeship contract obliges the company to provide the necessary personnel to carry out the apprentice's practice programme and to cooperate with the teaching staff of the apprenticeship school on assuring practice and assessment of the apprentice's performance. The OAED retains control of the work experience component by sending training staff from their schools to visit the companies and monitor the work experience and write up reports.

Ireland: FAS coordinates the on- and off-the-job phases of apprenticeship by means of a computerised scheduling system. The employer provides an experienced craftsperson to oversee the training and work of the apprentice as well as a suitable person who can be approved by FAS to carry out the specified assessment required to establish the apprentice's competence. In the case of the supervisor/tutor allotted to the apprentice, training in workplace assessment techniques is provided, where necessary, by FAS.

Luxembourg: Since 1935 Luxembourg has made it a pre-condition for those training apprentices to hold a mastercraftsman's certificate. If it is the director of the company who has the qualification, any tutor he/she designates to the apprentice for the duration of the practical training must have a CATP qualification and at least five years, work experience. Surveillance of the on-the-job training is carried out by the relevant Chamber, which keeps a record-book on each apprentice and checks it in collaboration with the vocational school. It organises intermediate tests to monitor the apprentice's progress and to impose follow-up measures thought necessary as a result of these tests, provides a counselling service for apprentices and enterprises, and synchronises the theoretical and practical training.

Netherlands: The employer who is responsible for organising the practical training appoints an instructor who makes sure that the apprentice carries out a series of instructions and tasks from a practical workbook. The adviser from the National Board, who is responsible for the control of the quality of practical training, offers support in this. He/she is also the main coordinator of on- and off-the-job training, regularly consulting the school and the company and guiding the apprentice in both theoretical and practical aspects of the training. Though no specific requirements are imposed by law on the practical trainer, the National Boards are moving towards better standards, particularly by strictly monitoring the quality of training. A number of training courses for practical trainers in the apprenticeship system are offered.

Portugal: The low existing level of occupational qualification in the Portuguese workforce poses a problem for practical training provision in the apprenticeship system. Only about one-third of the workforce have qualifications. Skill shortages exist at senior and middle management and skilled worker level. Some companies are reluctant to take on apprentices for this reasons because they will soon be more qualified than permanent staff. Where apprentices are recruited, an adequate level of coaching cannot be assured. Coordination is done by the IEFP.

United Kingdom: The supervisor or training tutor assigned to the apprentice is not required to have specific training for this role but they tend to be experienced in training people on-the-job. Modern Apprenticeship does not change this situation nor does it make provision for coordination between on- and off-the-job training which has been non-existent up to now, nor has the ratio of on-the-job to off-the-job training been specified.

- ***Schools***

In most countries, schools and training centres providing off-the-job training are financed or supported by the state and are therefore responsible ultimately to a particular ministry. Details of these responsibilities are given in annex 8. They provide background theoretical training for occupations covered by apprenticeship, in addition to elements of general education. It is not possible to look at the whole range of theoretical training here and we will therefore concentrate on the coverage of general education. Table 5 lists the establishments authorised to provide off-the-job training for apprentices.

Table 5 - Schools/Training Centres providing off-the-job training

B	Institutes for the "Middle Classes", in the Dutch-speaking Community VIZO institutes.
DK	Vocational, technical and commercial schools.
D	Berufsschulen - vocational schools which are subject to the school laws of the Länder.
E	Training centres in enterprises; centres created by companies, employer organisations, or trade unions; accredited public or private training centres; distance learning centres. All the establishments in question must be accredited to impart the theoretical training by means of a positive report drawn up by INEM on the basis of the legal requirements.
F	Apprentice training centres (CFAs) - set up by a convention between the state or a Regional Council and the body running the CFA which may be a local authority, a trade body, a chamber of commerce, an enterprise, a public or private educational establishment or any other corporate or individual body. CFAs are subject to the educational supervision of the state.
GR	Apprenticeship schools of the OAED.
IRL	FAS training centres, RTCs, TEAGASC agricultural colleges, colleges of technology, CERT training centres and hotel schools.
I	Training centres run by the Regions.
L	Lycées techniques - technical secondary schools.
NL	The 30 Apprenticeship Training Institutes are being actively merged with the MBO institutions i.e. upper secondary vocational schools. In the years ahead they will be integrated in multitrack and multi-sectoral training institutes (OECD, 1994).
P	Public or private teaching establishments, government-run or assisted training centres, firms' own training centres or those run jointly by a number of firms.
UK	Further Education Colleges, ITO training centres, sectoral group training associations, in-company facilities in larger companies.

■ ***General education as part of off-the-job training***

As the age of entry and age of compulsory education rise, apprentices have a more rounded education before they begin their training. Nevertheless, general education has become an important element of the school-based tuition given to apprentices. This may be more vital in some countries than in others but the countries where it is most needed are not necessary those that supply it. For instance, in the **UK** 50% of pupils leave lower secondary education without assessment and 30% of **Spanish** pupils do not attain the diploma taken at the end of compulsory schooling (Rault, 1994, p. 126). But plans for incorporating general education into apprenticeship in both countries are still vague.

Details of the content of general education are as follows:

Belgium: 180 hours general knowledge per annum, with an additional special package for apprentices still not finished part-time compulsory education (15-18 years).

Denmark: One-third of the total off-the-job training time is devoted to general education, including a broad range of optional subjects. The objective is to give apprentices general education, including personal development and an understanding of the structure and development of society, to set them up for life and work. Foreign languages, especially English, form part of general subjects in all apprentice courses.

Germany: Mathematics, civics, German and sport are all required subjects, and business economics when considered relevant. Vocational school curriculum for apprentices comprises two-thirds general education.

Spain: It was agreed by the Ministries of Education and Labour on 18 April 1994 that off-the-job training should encompass mathematics, language skills and introduction to the world of work. Applicants who have not attained the "Graduado Escolar" certificate which marks the end of lower secondary education, can do so during their apprenticeship.

France: Two-thirds of time at the CFA is devoted to general education: French, mathematics, law, introduction to management and organisation, technology, introduction to computers, technical design etc.

Greece: During the first year of apprenticeship, one hour each per week is given to the following subjects: mathematics, Greek, biology and geography (in the first term), chemistry and recent European history (in the 2nd and 3rd terms).

Ireland: Under the new standards-based apprenticeship, general education and personal development are included in the curriculum. The mathematics, science and drawing associated with each trade are taught as well as communications, customer relations, problem-solving, planning, report writing, etc.

Italy: Since off-the-job training only takes places on rare occasions, details are not available.

Luxembourg: Languages, mathematics, and science are compulsory subjects.

Netherlands: One third of off-the-job training time is devoted to Dutch, social guidance (and communication), physical exercise.

Portugal: Socio-cultural training for social and personal development is an intrinsic component of off-the-job training and includes: Portuguese, mathematics, current affairs and a foreign language. There is also a scientific/ technical component which imparts an understanding of technology and develops the ability to solve problems. Mathematics are included in pre-apprenticeship for young people, aged between 15 and 21 years, who have had only four years schooling.

United Kingdom: Preparation for NVQ level 3, through apprenticeship, might include communication skills, numeracy, problem-solving, supervisory skills and entrepreneurial skills. Many studies in recent years, especially those from the NIESR, have criticized the lack of basic mathematical knowledge among UK trainees and young workers so it is likely that this will be redressed.

- ***Duration of training***

The original thinking behind apprenticeship was that the apprentice would serve his/her time with the master until he/she had learned all the skills of the trade. In an era when technology changed slowly, this type of 'front-end loading' in training was appropriate and it stood the young person in good stead for the rest of his/her working life. In the industrial society there was no need for all workers to know all the skills of the trade. Whereas operatives and unskilled workers were given a superficial induction training in their tasks, skilled and craft workers continued to receive a thorough training, often in the apprenticeship system which provided them with the competence to keep the machines working and repaired, etc. In our post-industrial society, many of the tasks which the unskilled did are now done by machines and the distinction between unskilled and skilled jobs is decreasing. As the unskilled jobs disappear, the workers that remain are retrained to supervise and maintain the machines. At the other end of the scale the jobs of skilled workers and technicians are becoming harder to differentiate, and as technology changes or improves frequently, the skills of these workers are constantly in need of up-dating and development, thus the need for continual, life-long training. Flatter organisational hierarchies and more team work mean that there is more on-the-job learning, for example through quality circles. Therefore, the need for long periods of training (or time-serving) at the beginning of one's career no longer seems justified. This is reflected in the reduction in length of apprenticeship.

As can be seen in Table 6, the average length of an apprenticeship is now usually two or three years, with the exception of **Ireland** where four years is still the norm, but this

is also negotiable depending on the prior experience of the apprentice. In **Portugal** it can also take up to four years but this is usually for apprentices who have not attained a required level of basic education. In the **UK**, depending on the level of education, Accelerated Apprenticeship can be as short as one and a half years for A-level holders. A similar possibility exists in **France**. Such reduction of length is also a means of eliminating exploitation of apprentices.

As we have seen above, the average age of entry into apprenticeship is rising. Therefore, entrants have a higher level of general education which justifies reducing the length of apprenticeship. There is an argument in favour of this development in that a good general education will provide a basis for information-handling, problem-solving and dealing with new situations in the changing workplace.

The offer of pre-apprenticeship has been on the increase in recent years. One reason for this is the virtual disappearance of lower secondary vocational education streams and the preference by parents and pupils for general education paths which are free of the remedial connotations of lower vocational education. Pre-apprenticeship is now seen as a way of providing broad-base foundation courses which provides a type of vocational guidance and allows young people to familiarise themselves with a wide range of occupations in a related sector before making a choice. It also falls into line with the tendency to specialise later since today's workplace needs people with a wide experience when it comes to work which demand mutli-skills and independent problem-solving. This also has implications for the duration of apprenticeship because if the apprentices already have a good foundation to build on, the time they need to learn specific skills will be less.

Table 6 - Duration and organisation of training

	Duration in years	School	Company	Pre-apprenticeship
B	3	1 day[1] (or 2 halves)	4 days	
DK	2 - 5	1/3(blocks)	2/3(blocks)	1st year can be school-based
D	2 - 3½	1-2 days	3-4 days	"Basic vocational training year" was attended by 8% of those attending Berufsschule in 1990/91
E	3	15% arrangements to be decided	85%	
F	1-3 (usually 2)	1 week	2 weeks	vocational initiation classes, previously CPA
GR	2.5-3	1 day	4 days	1st year school-based
IRL	1 - 4	3 blocks	4 blocks	Ist year in the training centre
I	2	1 day[2]	4 days	-
L[3]	3	1 day	4 days	Last year of lower secondary is a pre-specialization year
NL[4]	2	1-2 days	3-4 days	VBO is a lower secondary vocational stream taken by many going on to apprenticeship
P[5]	1-4 (usually 3)			1-2 years pre-apprenticeship, optional, depending on level of basic education
UK	1.5-4 yrs			

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1 15 year olds spend 1½ days or 360 hours in school.

2 Not generally respected.

3 Ministry can increase number of obligatory theoretical hours.

4 Those over 20 have the option of working 5 days and going to school 2 evenings a week.

5 Organisation depends on distance of company from nearest school and area of training.

■ *Modular Training*

The growth of modularisation in initial training is linked with the demands for new types of qualification associated with technological and structural change and new ways of organising the work process. As well as specific skills, polyvalent skills and forms of qualification are required that cater for different occupations and tasks, thereby increasing the flexibility and versatility of the workforce. The PETRA Research Partnerships includes a project on The Effectiveness of New Curriculum Models for Initial Vocational Training. Six countries are participating: **Germany**, **Spain**, **France**, **Luxembourg**, the **Netherlands** and the **UK** represented by **Scotland** (Raffe, 1993). The Scottish system has reached an advanced stage, all VET awards for young people and adults are organised on a modular basis allowing students to combine academic and vocational streams. **Denmark** is also a pioneer in this field. In **Germany**, developments are confined to further training because legislation on initial training prescribes that trainees follow a specific type and length of course which leads to a final examination providing nationally recognised qualifications.

One of the main criticisms of apprenticeship has always been its rigidity and inflexibility and the fact that is was too reliant on the experience available in individual companies. In apprenticeship, the attractiveness of modularisation is as a means of shortening training and to add flexibility, enabling apprentices to "mix and match" modules from within or among sectors. Modularisation opens up the possibility of personalising training to meet the needs of the apprentice and to suit his/her individual ability and aptitude. "Training must be divided into appropriate units (modules) to give participants the opportunity of taking shorter training courses independently and at their own speed, with guaranteed access to a broad spectrum of qualifications. Modules also make it easier to cater for the differences that exist even within a single occupation" (Römkens, 1994, p. 48).

Related to the question of modularisation is accreditation of prior learning. Apprentices who already have work experience, or other education and training certificates, can have these assessed and choose their modules in order to supplement and fill the gaps in their previous training and experience. The NVQ system in the **UK** aims at a modularised structure incorporating APL.

In **Denmark** 86 courses are available through apprenticeship. Within many of these courses a variety of modules is offered which allows apprentices to specialise in some 200 different areas. In **France** a modular system or CFI ("Individual Training Credit") system has been developed. It offers preparation for a range of certificates at basic level vocational training. A pilot scheme has been started in **Luxembourg** to diversify courses offered to apprentices and technical school students. In the **Netherlands** the National Boards have been and are continuing to initiate modules.

Note: The CFI is geared to 'low level' qualifications, leading to diplomas at French level V only (CAP, BEP). It is possible to hold an apprenticeship contract within the framework of the CFI.

In **Portugal**, the government is committed to modularising courses organised in the "escolas profissionais". **Spain** also has a pilot scheme running since 1988 for students completing the experimental general secondary education (BG) cycle. The modules are grouped around occupational families which could lend themselves to apprenticeship. In **Ireland**, the apprenticeships presently being tested are fully modular in their make-up. They begin with a broad-based module or foundation in a range of skills relevant to the apprentice. This is followed by a series of modules specific to a particular trade, then the apprentice and the employer develop skill modules relevant to their needs, e.g. technological skills.

Financing

The financing mechanism in apprenticeship is a complicated procedure involving investment by the state, the company and the individual. The state normally covers both the capital and tuition costs of the school component. In **Denmark**, the **Netherlands** and the **UK**, schools are being obliged to compete against each other on the open market. Their grants are calculated according to the numbers of students they can attract. In countries eligible for EU development grants, state investment in training is now being subsidised from these funds. In **France** and **Ireland** apprenticeship is subsidised via a levy on employers, and although the general levy has been abolished in the **UK**, the EITB funds engineering training by a levy on all employers in the industry. In **Denmark** apprentices' wages are subsidised via a levy (AER). The average costs of an apprentice to the state is lower than for full-time trainees. In **France** the cost is 23,973 FF, compared with 30,800 FF for students in general or technical education. In **Denmark**, the cost of an apprentice in commercial schools is 20,000 DKR. and between 26,000 DKR and 57,000 DKR in technical schools, depending on the level of equipment required. In **Germany**, it is estimated at 17,862 DM. per apprentice, per annum. Corney (1994, p. 14) calculates that in the **UK** the government has budgeted for an investment of 3,700 UKL. gross per apprentice but, in fact, this is only barely greater than half the cost at NVQ II level.

Employers carry the main burden of apprentice wages, and in return apprentices are expected to contribute to production at least in the latter stages of their training. Employers are compensated through exemption from social security payments for apprentices, except in the **UK** and the **Netherlands**, and in some cases through tax incentives for taking on apprentices.

Some characteristics of the different systems are as follows:

Belgium: Since part-time schooling is obligatory until 18 years, the school-based part of apprenticeship for many apprentices is funded by the two Communities as part of compulsory education. The employer pays the apprentice a monthly allowance for the work done at the company and covers his/her travel or accommodation costs.

Denmark: The state pays the vocational school a premium for each trainee it registers on a training course. The trainee wage during practical work experience is paid by the employer while trainee's wages during time spent at school are subsidised by means

of a grant from a collective employers' fund (AER Fund). Until the end of 1994, 90% is being reimbursed in an effort to encourage the creation of training places.

Germany: The company providing the practical training is responsible for paying the apprentice's allowance. The only recompense the company receives is a tax rebate on the money paid out in apprenticeship wages. Germany has abolished a national levy system which could be activated only if the supply of formal apprentices slots offered did not exceed by at least 12.5% the number of youth seeking such slots.

Spain: The state will pay for the theoretical training, mostly from EU funds, while the employers pay the apprentice's wage. The training actions are to be funded under the tripartite agreement on the continuing training of workers.

France: The employer pays the apprentice a wage for the duration of his/her training. Between 1 July 1993 and 30 June 1995 enterprises receive a bonus of 7,000 FF for each apprentice contract concluded. Each new apprentice recruited since 1 January 1993 entitles a company to tax exemptions of between 5,000 and 7,000 FF. The rest of the cost of apprenticeship is borne by all employers who pay an apprenticeship tax amounting to 0.5% of their total salary costs, and by a Regional Apprenticeship Fund which receives its monies from the State.

Greece: The State carries the cost of all off-the-job training, 65% came from ESF funds in 1991. From the second year on, the employer pays the trainee a wage during on-the-job training. Until 1990, private firms which took on apprentices received a grant amounting to 20% of an unskilled worker's wage for each recruit. Between 1990 and 1993 grants to companies were stopped but are gradually being reintroduced with the electricity company and the shipyards currently benefitting.

Ireland: During on-the-job training apprentice wages, training costs and assessment costs are funded by the employer. Training and assessment costs incurred in the training centres or educational colleges are met from State funding with appropriate ESF support. In craft apprenticeship, during off-the-job training, apprentices receive, from the apprenticeship fund, an allowance equal to their wage paid by the employer and contributions are paid towards travel and accommodation costs. The apprenticeship fund is created by a statutory Apprenticeship Training Levy of 0.25% of the payroll in craft industries, and supplemented from State and ESF funds. In all others sectors off-the-job apprentice costs are borne by the employer who is not subject to the Levy.

Italy: Apprenticeship contracts are particularly favourable to employers who pay apprentices a remuneration which is well below that of workers with normal contracts, even though they may fulfil the same tasks. In some rare cases, the Regions bear the cost of and organise off-the-job training activities for apprentices. During such periods compensation is payable to the employer.

Luxembourg: The classroom training is free, all costs for public education being covered by central and local authorities. A Grand Ducal Decree 1988 established the conditions applying to various forms of aid and grants for the promotion of apprentices

to which firms may be entitled. Employers are usually reimbursed 8% of the allowance they pay apprentices in addition to their social security payments. In the craft sector or sectors experiencing skill shortages, the assistance to the employer is 12%.

Netherlands: The Ministry of Education and Science bears the cost of day-release education but apprentices pay course fees. In principle, the cost of the practical component of apprenticeship training is borne by the employer, although the Ministry of Social Affairs and Employment does make a contribution under the Apprentice Training Grant Scheme which aims at encouraging employers to provide training places by giving them NLG 2,500 for every apprenticeship contract entered into. This scheme will be replaced by a sectoral framework scheme in 1995 because currently participation differs greatly, with some sectors contributing up to 80% of training costs and others nothing.

Portugal: Since 1987 apprentices have received financial assistance from the ESF. In 1990 the initial training of young people became one of the operational programmes of the EU support framework for Portugal. In the first year all costs are covered by the state, the company pays 30% in the 2nd, 50% in the 3rd, and 75% in the 4th year. The bodies involved in apprenticeship benefit from non-refundable subsidies, fixed annually by the Institute of Employment and Vocational Training (IEFP) which also finances trainee holidays, accommodation, food, travel, and creche facilities.

United Kingdom: Up to now, the government did not fund apprenticeship, but many apprentices also enrolled in the Youth Training programme and in this way their training was supported by the government. It is envisaged that the Modern and Accelerated Apprenticeship will avail of the current Youth Credits, a system which gives each trainee a cash allowance to spend on training at their own discretion. Wages will be negotiated with the employer.

- **Apprentice wages**

With the exception of **Belgium** (where wages are adjusted to the price index), **Greece**, **Portugal** and the **UK**, apprentice wages now form part of the collective bargaining on wages. The following tables give an idea of apprentice earnings in the Member States which are always a bone of contention between employer and employee organisations.

Table 7 - Apprentice wages

BELGIUM (1994)	Monthly allowance		
	1st year	2nd year	3rd year
Wallonia	BFR 4,700	BFR 7,270	BFR 9,020
Flanders	BFR 5,730	BFR 7,940	BFR 9,100
Minimum Wage: BFR 30,000 net (756 ECU)			

DENMARK (1994)	Monthly allowance		
	1st year	2nd year	3rd year
Metal work	DKR 4.786 (= 635 ECU)	DKR 5.744	DKR 6.476 (=860 ECU)
Commerce	DKR 6.537	DKR 6.937	
Wage on qualifying: DKR 9.157			
Levy: AER			

GERMANY (1993) Selected Sectors	Monthly allowance (DM)			
	apprentices		% of earnings*	
	male	female	male	female
Agriculture	908	889	23	28
Manufacturing (incl. crafts business)	1058	1040	18	27
Construction	1160	1103	24	27
Trade and Transportation	955	896	19	26
Public Sector	1175	1155	20	23
Services	1034	961	22	32
Total (all sectors)	1070 (557 ECU)	984	20 (100%= 2785 ECU)	27

* percentage of earnings of blue and white collar workers (weighted average);

Note: Subject to annual collective bargaining, in 1993 allowances paid in banking were 1,034, 1,129, 1,234 DM in the first, second, and third year of training respectively.

Source: Calculated by Franz/Soskice, WZB, 1994, from data in: Deutsches Institut für Wirtschaftsforschung (DIW), *Wochenbericht* Nr. 15 of April, 15th, 1993, p. 191.

ESPAÑA (1994)	Monthly allowance		
	1st year	2nd year	3rd year
	70 % of minimum wage	80 % of minimum wage	90 % of minimum wage
Minimum wage: 60,000PTA (377 ECU)			

FRANCE (1994)	Monthly allowance		
	1st year	2nd year	3rd year
16-17 years	25 %	37 %	53 %*
18-20 years	41 %	49 %	61 %
21 years +	53 %	61 %	78 %
	* of SMIC or of the conventional minimum salary corresponding to the post held, if more favourable		
Minimum wage (SMIC): 6,000 FR (915 ECU)			
Levy: 0.5 % of payroll			

GREECE (1994)	Daily allowance			
	1st semester	2nd semester	3rd semester	4th + subsequent semesters
	50 %	60 %	80 %	100 %
of minimum daily unskilled wage: 4,500 drachmas (15,3 ECU)				

IRELAND (1994)	Weekly allowance			
	1st year	2nd year	3rd year	4th year
	33 %	50 %	75 %	90 %
of minimum wage for qualified crafts person: £ 151 (ECU 190) per week				
Levy: 0,25 % of payroll				

LUXEMBOURG (1994)	Monthly allowance		
	1st year	2nd year	3rd year
	LFR 2,715	LFR 3,565	LFR 4,660, 6,776 after practical exam
	This example is for the industrial sector, slight variations exist in other sectors		
Minimum wage at 18: LFR 41, 310 gross (1046 ECU) Wages on qualifying: LFR 49, 577 gross (1255 ECU)			

NETHERLANDS (1994)	% of minimum youth wage	Minimum youth wage per month
16 years	34,5 %	HFL 746,30 (347 ECU)
17 years	39,5 %	HFL 854,50
18 years	45,5 %	HFL 964,30
19 years	52,5 %	HFL 1135,70
20 years	61,5 %	HFL 1330,40
21 years	72,5 %	HFL 1568,30
22 years	85,0 %	HFL 1837,70
23 years	100,0 %	HFL 2163,20 (1470 ECU)

PORTUGAL (1994)	Monthly allowance			
	1st year	2nd year	3rd year	4th year
	30 %	40 %	50 %	60 %
of minimum wage: ESC 49,300 (251 ECU)				

UNITED KINGDOM (1994)	The TEC will give the apprentice the equivalent of the current Youth Credit to spend on his/her choice of off-the-job training. Employer and apprentice will negotiate wage terms. The UK does not have a minimum wage. The present rates for YT trainees are £29.50 per week (ECU 37) for 16 year olds, £34,50 per week (ECU 43,90) for 17 year olds.

Certification and qualification

The notion that apprentices should take exams and receive certificates at the end of their training is relatively new. Hitherto, the employer often had the sole responsibility for assessment in many countries. However, in **Denmark**, **France**, **Germany** and the **Netherlands**, it is difficult to find employment at the end of an apprenticeship without a certificate. Given the current preoccupation of all European governments with equipping their workforces with adequate qualifications in order to improve economic competitiveness, efforts are being made to encourage apprentices to develop their competence and attain recognised qualifications. It is also imperative for mobility of labour within the EU. A full list of the certificates attainable through apprenticeship are included in annex 6. We will now look at how these are acquired.

- ***Examinations and assessment***

Belgium: Continual observation and assessment takes place throughout apprenticeship. In the final examinations the practicals account for 40% of the marks. In the company a progress sheet is filled in regularly, monitored by the apprenticeship secretary from the institutes of the "Middle Classes", and passed between employers and apprentices. It is signed when all the skills listed have been successfully achieved.

Denmark: Continual assessment is carried out either by examination or assessment of apprentices' work in class by the teacher. A final examination, both written and oral is required. The Trade Committees organise the tests on-the-job, and an external examiner or "inspection master" (appointed by the Trade Committees), who is independent of both the school and the workplace, acts as supervisor. Depending on the course being followed, this may take the form of a journeyman's test a school examination or a combination of the two.

Germany: Continual assessment both in the company and in the vocational school is implemented for the duration of the training. An intermediate exam half-way through training is organised in conjunction with the responsible Chamber. The apprentice maintains a report book which is also assessed. The final certificate is judged on the basis of a final school exam and a journeyman's exam sanctioned by the Chamber, and on the results of the continual assessment. Other certificates for languages, etc. are awarded separately by other institutions.

Spain: Practical training is to take place in the company under the supervision of the employer or a person appointed by the employer. Following completion of training, the employer shall award the trainee a certificate on the practical training received as evidence of effective working ability commensurate with the type of training stipulated in the contract. The administration (ministry of employment or education, depending on whether or not the apprentice is pursuing the "graduado escolar") is responsible for the monitoring and control of theoretical training. Guidelines on the content of theoretical training are drawn up by INEM as a means of guaranteeing training quality. The training centres shall also award trainees a progress or attendance certificate on training received. Both certificates grant access to the tests leading to the corresponding certificate of professionality.

France: Apprentices take the same examination and undergo the same assessment procedure as students in full-time vocational education. Coordination with the enterprise is assured by the "shuttle sheet" and apprenticeship record-book drawn up by the Rectorate (regional office of the Ministry of Education) which pass between the CFA and the company. This enables the instructor to evaluate the professional competence attained by the apprentice and plan his/her progression and at the same time the CFA can supply the necessary pedagogical support.

Greece: In theoretical subjects written exams are carried out every two to three weeks, with additional oral exams at the discretion of the instructor. The grades from these exams are accumulated and taken into consideration for the exams required to pass on to each new semester. Likewise, tests in laboratory subjects are held at the end of each semester on new course contents. A general exam is taken at the end of apprenticeship. Graduates from apprenticeship schools must then work for at least one year before submitting their diploma and relevant justification of professional experience to the relevant Ministry (according to trade) in order to obtain a "licence to practice a trade".

Ireland: Apprentices are assessed on a structured ongoing basis throughout their apprenticeship - standards-based, modular assessment off-the-job and competence assessment on-the-job. The former is undertaken by the school while the latter is the task of the workplace assessor who is provided with a checklist of skills, knowledge, tasks and attitudes to be assessed during each on-the-job phase of training. The lack of interaction between on and off-the-job assessment and the fact that the company alone is responsible for on-the-job assessment leave it open to abuse.

Italy: Few apprentices take examinations. The employer is more interested in the young person's ability to work effectively. Work experience attained is recorded in his/her personal record-book (libretto di lavoro).

Luxembourg: At the end of each year the class council decides whether or not an apprentice can proceed to the next stage. This decision is based on the average attained in general education, theoretical and practical training, including practice in the company. Those who fail the practical part cannot go on. A national examination takes place at the end of apprenticeship. Apprentices take the same practical examination as students preparing for the CATP in full-time vocational schools, but their theoretical subjects are examined orally rather than by written tests. To facilitate their entry into working life, apprentices who only succeed in the practical training are awarded an introductory qualification, "certificate de capacité manuelle" (CCM).

Netherlands: Apprenticeship concludes with an examination based on the practical and theoretical parts of the training, the form and content of which is laid down by the National Boards which appoint a committee to administer the examination. Those who successfully pass the examination receive a national diploma in the trade concerned. Those who pass only the practical part can obtain a practical certificate, while those who pass part of an examination belonging to a certificate unit or module also receive a certificate.

Portugal: Final tests for occupational skills are laid down in the individual apprenticeship regulations.

United Kingdom: Up to now, there was no requirement for trainees to pass college examinations as a condition of satisfactory completion of apprenticeship. It is still possible in a minority of cases to complete an apprenticeship by simply having served as an apprentice for the required period of time. NVQs are to be applied to apprenticeship from 1995, imposing set standards of competence which will have to be achieved by each apprentice. It is expected that almost one-third of the apprentices will achieve NVQ Level 3 - equivalent to "A" Level standard. There is no centralised body to define the general criteria relating to the basic skill and knowledge requirements of apprenticeship. Individual ITOs (Industry Training Organisations) are devising such criteria. The involvement of a neutral assessor is lacking.

- ***Parity and progression***

Traditionally apprenticeship was seen as an end in itself. For those who wished, it led to a mastercraftsman certificate in the chosen branch and this was seen as the pinnacle of a skilled worker's career. However, as production and employment in the workplace become more flexible, the barriers and differences between the various categories of workers are breaking down and becoming less clear-cut and easy to define. "Skilled craftsmen, through no fault of their own, have proved expendable in large numbers" (Haxby, 1989, p.178). Haxby sites the motor vehicle and repair industry as an example of where deskilling of traditional tasks has occurred, with component replacement taking over from repairs, and the growth of specialist single-purpose repair companies. At the top end, the differences between the skilled worker and technician job profiles are becoming more blurred, both having to cope with impromptu problems and situations and ever-developing technologies. Such change and flux in working life calls for constant updating of skills and retraining. This is one of the main reasons why training today has to leave the trainee access to other forms of training and educational tracks. There are therefore current attempts in many countries to link the apprenticeship system into mainstream education. This is often achieved by giving apprentices qualifications at the end of their training which allows them to re-enter academic education or gives them access to further training possibilities, i.e. apprenticeship is being seen as a first step in life-long or continuing training.

There are some indications that parity between academic and vocational routes can be encouraged through suitable certification mechanisms. **Austria** has had a successful dual qualification system for many years (OECD: 1979, p. 75), whereby those finishing apprenticeship attain the general certificate of education comprising university entrance qualification (Matura). The CBI, **UK** 1993, recommended the move towards dual qualification through core skills to bridge the academic-vocational gap.

In **Belgium** and **Italy** no formalised links exist between VET awards and re-entry to formal education. A Belgian apprenticeship does, in many cases, lead on to a qualification for "heads of undertakings" which enables holders to set up their own business, a feature which is linked with the needs of the "Middle Classes" (SMEs) which have a monopoly on apprenticeship. Developments at regional level in some parts of Italy are taking into account the need for progression and movement through the system by modularising courses (Gordon, 1993, p. 41), but this has still to affect apprenticeship.

In **Denmark**, the **Netherlands** and **France** the framework exists for easy progression within the overall education system because apprenticeship is anchored within the national framework of, or on a par with, full-time upper secondary vocational education. Graduates of both apprenticeship and school-based routes attain equal qualifications which allows them access to higher education. In the **Netherlands** it is possible for trainees to change from apprenticeship to full-time MBO courses or visa versa. A law came into effect on 1 August 1993 to link the apprenticeship system to senior secondary vocational education, thus opening the path to higher education. In **France**, since 1989, apprentices can prepare for any occupational qualification. But in 1992-93, 63.3% were still opting for the CAP which is a cul de sac as regards career progression, compared with vocational baccalaureate 8%, BTS, 2%, and at engineer level 0.5%.

In recent years one of the policy priorities in **Germany** has been the achievement of parity between vocational and academic education by establishing skilled worker training as an equal option to upper secondary Gymnasium education and higher education. Efforts have been quite successful. Since 1992 those who entered apprenticeship with the "Hauptschule" diploma, or with no qualification are automatically granted the "Realschule" diploma on completion of their apprenticeship, opening up to them a whole new range of possibilities.

One of the reasons for the success of the dual system has been that it led into full-time technical training and a substantial proportion of dual system award holders goes on, to university or Fachhochschule courses (Gordon, 1993, p.40). This is possible because many of those completing the "Abitur" go into the dual system. Negotiations are advanced on admission to higher education for ex-apprentices and workers who do not have an "Abitur". A dual qualification course, integrating grammar and vocational school elements, was first introduced in the 1970s (the Kollegschule in North Rhine-Westphalia has the best example). But it has had a very low up-take (Münch, 1994, p. 81).

In **Ireland** the system will include pre-technician modules in the final stages of apprenticeship as part of the specialist skills options. These will prepare apprentices for technical level training. Bridging possibilities have also been introduced in **Greece** where graduates of apprenticeship schools can enrol in year 2 in the Technical Vocational Lycée (TVL) and continue their studies right up to university if they wish. Similarly in Luxembourg, holders of the CATP are entitled to admission to the advanced stage (6th year) of technical secondary education, and attainment of the Technical Secondary School Leaving Certificate provides access to higher education.

Reforms in **Portugal** aim to allow movement between general and technical education through modularisation of courses. Apprenticeship is based on a system of credit accumulation which opens up numerous possibilities, including qualifications at technician level. In the **UK** and **Ireland**, there are so many individual bodies involved in the awarding of qualifications that it is difficult to equate them and tie them into an overall framework. Developments are now under way to tackle this problem by looking at the end results. The system is most advanced in the **UK** where NVQs are based on outcomes, i.e. what the trainee is able to do and on credit accumulation, so that units of competence can be achieved in a wide range of ways, over a period of time. The thinking behind this system is very egalitarian in that ideally an apprentice being

assessed in this manner could aspire to reaching the very top of the scale (NVQ level 5) in time, provided he/she was in a work situation which gave access to the required competence. Whether the system is actually workable in practice has still to be established. If assessment is left up to the individual employers it is likely to revert to a system of meeting the internal labour market requirements of the company, and parity even at sectoral level will be lost.

An interesting variation exists in **Switzerland** whereby an adult worker may take the skilled worker (apprenticeship) examination if he/she has worked in the trade for twice the period of apprenticeship. (Encyclopedia Britannica, 1976, p.1020). In **Denmark**, specific adult vocational training courses (VEU) were started under the Vocational Training Act, which are organised for adult participants over the age of 25. Adult training schemes will be established every time a new youth training scheme is established. Adult apprentices are seen as an important strategy in Denmark. In 1994 approximately 4,500 adults took part in the VEU courses, more than double the expected number.

- ***Levels of qualification***

Related to the question of progression is the problem of slotting qualifications into hierarchical levels. When CEDEFOP took on the task of looking at recognition of qualifications and diplomas in the late 1970s, it was decided to start with EC level 2 (see annex 7) which at that point corresponded to the qualification of skilled worker, usually attained through apprenticeship. As the work progressed, it emerged that these levels were not as watertight as had been assumed. Skills were not only changing in response to technological developments but were overlapping traditional demarcation lines (Singer/MacDonald, 1976, p. 18). The OECD (1989, p. 9) also observed this phenomenon in relation to school-based education and training. It further suggests (p. 26) that the term "technician" derives from the older technologies such as mechanical and electrical engineering and may be a less appropriate category in the newer ones.

It is more likely nowadays that a worker's tasks will include a mixture of the so-called "skilled", "unskilled" and even more "technical" tasks. Ashton/Maguire/Spilbury (1988, p. 55) found that in the **UK** many graduates were entering secretarial and clerical work, which ten to fifteen years previously would not have been regarded as graduate occupations. They also found that the decline in recruitment of apprentices (the number in engineering was cut by 50% since the 1970s), was not only due to the decline in manufacturing but also to the fact that employers were retraining adult employees to protect them from redundancy. This of course was breaking with the old tradition that skilled workers had to do an apprenticeship before they were given craftsman status. It is however in keeping with the workplace and market-place reality. These existing employees know the ropes and can be trained more quickly for a new role than a new recruit.

Apprenticeship in the **Netherlands** has three distinct stages, each at a different level. Elementary apprenticeship, also known as the "starting qualification" level, takes two to three years and is equivalent to EC level 2. Advanced apprenticeship goes into the subject matter more deeply and leads to EC level 3. The tertiary stage is intended to take participants from the level of skilled worker acting independently to middle management or specialised occupations (EC level 4). Similarly, in **Belgium** and **Luxembourg**, specialisations for owner/managers "chef d'entreprise" exceed level 2. Mastercraftsman qualifications in **Germany** and **Luxembourg** are a form of further training or specialisation for apprentices who have gained at least three years professional experience which qualifies them for supervisory roles. In **Germany**, the situation has always been complicated by the fact that apprenticeship is a form of training used to train a wide spectrum of workers, shop assistants, chamber maids, and bank clerks, all go through the system.

In the **UK**, the minimum standard now proposed for apprentices, NVQ level 3, is equivalent to A-levels which corresponds to EC level 3, as does the French "vocational baccalaureate", also attainable through apprenticeship. The fact that a **French** engineer can now qualify through the apprenticeship system makes a nonsense of its association with skilled worker level qualifications. Another anomaly in the levels occurs when **Irish**, **German**, **Danish** or **Dutch** school-leavers, with an "Abitur" or school-leaving certificate, enter apprenticeship they already have a qualification comparable or higher than the one they are preparing for!

All of this disorder underlines the need for a "common currency of qualifications" which will allow each type of education and training to relate to one another and to the labour market (OECD, 1989, p. 14).

Statistical analysis

- ***Participation in apprenticeship***

In general, there has been a decrease in annual intakes of apprentices over the last decade in most countries. Table 8 shows that the pattern is up and down. This is due to the cyclical nature of apprenticeship. **Ireland** is an example where the demand is always greater than the supply but places fluctuate according to economic recession or growth, and the monies available to FAS. In **Portugal**, where the system only started in 1985, the numbers are still growing. In the **Netherlands**, the system has been attributed more importance in recent years and a growing number of places are being absorbed by adults, since under the education and job creation policy the apprenticeship system is to perform additional functions of retraining, further training and upgrading. But again the latter experienced a significant drop from 1992 to 1993 due to lack of places in companies. In **Denmark**, the figures are very irregular. This seems also to be related to availability of places in companies. No marked increase has resulted from restructuring in 1991.

There is a decline in all countries, population growth which is beginning to manifest itself in this age cohort, except in Ireland where the decline will not be noticeable until the start of the next century (see OECD table in annex 8). **Germany** is indicative of this decline. The number of young people under 21 was 32% of the population in 1970, in 1990 this had dropped to 22%. The tendency for young people to stay on longer in general education and to go on to higher education also contributes to falling numbers in apprenticeship in **Germany** and elsewhere.

Between 1992 and 1993 the numbers in the **UK** fell by 80,000 but up until then the decrease had not been as sharp as one is led to believe in the literature. A reason given for the decrease in the **UK** is the decline in the secondary sector, a development common to all countries. But it also had competition from training initiatives, such as, Youth Training and its predecessors.

Table 8 - Numbers of apprentices in the EU Member States 1980-1993

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
B	11,106	11,647	13,986	12,976	12,491	13,867	14,592	13,719	13,612	12,304	10,896	10,788	10,584	-
D*	1,712,716	1,676,877	1,675,861	1,722,416	1,800,000	1,831,501	1,805,247	1,738,687	1,657,960	1,552,534	1,476,880	1,430,000	1,388,322	-
DK**	31,870	31,423	33,547	34,388	38,834	43,136	45,120	39,693	37,627	34.452	36,875	41.998	38,340	
E	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	228,800		225,000	214,642	207,252	213,563	207,605	226,429	234,048	231,572	220,326	211,458	206,000	-
GR	9,629	8,448	8,307	7,453	8,783	10,078	10,567	10,722	10,390	11,715	11,795			c. 15,000
IRL	22,475	20,479	20,736	19,643	17,797	17,229	13,994	14,295	13.219	15,543	14,690	15,826	15,467	***12,484
I				599,183	554,452	547,023	523,053	543,193	556,506	551,444	529,741	523,767	505,734	449,765
L	2,813	2,714	2,496	2,513	1,931	1,773	1,675	1,988	1,459	1,404	1,335	1,219	1,274	1,312
NL	73,664	69,127	61,379	60,345	65,759	75,338	97,246	114,978	128,623	136,309	149,143		137,400	128,500
P	-	-	-	-	-	45	1,395	2,896	5,339	8,796	10,478	13,136	17,901	18,400
UK				363,000	332,000	357,000	318,000	314,000	329,000	367,000	352,000	333,000	325,000	245,000

* Statistics refer to the former Federal Republic only.
** Statistics refer to new entrants only.
*** 1993 figures for industrial apprenticeship only

Sources of these statistics are listed in annex 2

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Dropout rates

Table 9 gives an overview of the percentages of apprentices who do not complete their training either because they finish early or fail the final examination. The situation in **Denmark** is complicated by the fact that not all apprentices who have taken the first off-the-job year get a place in a company for their second year, and rather than continue in a workshop environment they commence another course. At present, 21% of all trainees leave training without a qualification. Since certification is not compulsory in the **UK** and **Italy** it is not possible to give an estimate on the basis of failure rates.

Table 9 - Dropout or non-completion rates

B	14 %
DK*	30 %
D**	14,8 %
E	not yet known
F	11 - 20 % dropout, depending on certificate being pursued. Only 57% of those finishing attain a diploma
GR	30 %
IRL	30% according to a sample survey in 1989. Further analysis found that most dropped out because of redundancy
I	--
L	37.4% failed to attain a certificate in 1993, up from 29% in 1990
NL	40% either dropped out or did not attain a certificate (Frietman/Van Onna, 1992, p. 29)
P	12 %
UK	--

* This figure refers to contracts cancelled during the apprenticeship period (Ministry of Education, Nøgletalsbase)

** This figure refers to contracts cancelled during the probationary period. Of those who dropped out in 1991, 46% concluded a new contract, 19% were trying to obtain a new contract, and 33% did not intend to begin another apprenticeship (BMBW, Berufsbildungsbericht, 1992, p. 36 ff.)

Estimated percentages of young people in apprenticeship

The percentages in Table 10 were estimated by the author on the basis of statistics available in the various countries (see annex 2). They serve merely to give an idea of the importance of apprenticeship within the VET systems. Table 11 which follows helps put them in perspective.

Table 10 - Percentage of young people in apprenticeship

B	5.4 % in Wallonia 3.1 % in Flanders
DK	50 %
D	66 %
E	150,000 entrants in 1994, amounts to circa 12% of the 1992 cohort
FR	10 %
GR	4 %
IRL	17 %
I	7.5 %
L	33 % of those in upper secondary vocational education
NL	12 %
P	6 % of 17-20 year olds in 1992
UK	The target of 150,000 16-17 year olds per annum is approximately 12% of present totals. The aspiration to include over half a million 16 - 19 years olds would mean 40-45% of the age cohort (Corney, 1994, p.15)

Entry into working life

Although one of the arguments in favour of apprenticeship and its current revival is that it facilitates access to employment, it has proven very difficult to find information on just how successful apprentices are on the labour market. The statistics which emerge are not as rosy as one would expect. They should of course be seen in the context of high youth unemployment in many Member States, particularly, the southern countries, **Spain** and **Italy**, and in **Ireland** and **France** (See EUROSTAT statistics in annex 9).

Belgium: A study carried out by the University of Liège in 1987, among a sample of former apprentices, found that, generally, 16% do not find employment (circa 10% of men and 30% of women). A large number remain in the company where they trained.

Denmark: 76% of apprentices finishing in 1990 obtained a job compared with 87% in 1986 (source: Ministry of Education).

Germany: In 1991, 48% gained permanent employment and 4% temporary employment in their chosen occupation. 12% went into permanent employment, 3% into temporary employment, in other occupations. 10% did military service, 13% did further or alternative training, and 10% remained unemployed (Source, "*Vocational training in the dual system in the Federal Republic of Germany*", Ministry of Education and Science, 1992).

France: In 1991, 50% of apprentices gained employment, 35% permanent, 14% temporary, 19% in the company where they trained. 28% remained unemployed while 17% were accepted on youth schemes (Ministry of Education). A survey of the first group of people taking the vocational baccalaureate showed that 93% found work within six months and two years later, 1986, the unemployment rate among them was only 8% (Boumendil/Willems, 1994, p. 23).

Ireland: The employment rate for FAS apprentices is usually 95-96%. CERT claims a 100% placement rate for its apprentices in hotel and catering, and virtually all farm apprentices find employment on their own farms or others on finishing their training.

Italy: Youth unemployment figures are very high, over 30% in 1993. In 1989, 76.2% of 14-19 year olds in employment were apprentices (Fressura, 1994). Apprenticeship is more effective in terms of insertion into active employment than traditional full-time courses which provide a recognised qualification.

Netherlands: From the total of 140,000 unemployed under the age of 23 in 1989, 58.500 were leaving vocational and general education at all levels, including apprenticeship (Central Bureau of Statistics).

Portugal: Of 8,233 apprentices who attained certificates through apprenticeship 1987-1992, 6,432 (or 78.1%) gained entry to the labour market, 4,840 in the company in which they trained, 1,591 in other companies. In the Algarve, the success rate was 93.7% (IEFP Apprenticeship Division, Dec. 1993).

No data is available for **Greece, Luxembourg** and the **United Kingdom**. The employment rate among YT leavers in the latter in 1992 was 49.8%, 28.2% of whom stayed with the same employer, and 24.5% were unemployed (Training Statistics 1993).

Table 11 - Percentage of secondary students enrolled in public and private general and vocational education (1991)

	General	Vocational and apprenticeship
Belgium	41.5	58.5
Denmark	33.4	66.6
France	46.0	54.0
Germany, ex. FRG ex. GDR	20.7 19.9	79.3 80.1
Greece	-	-
Ireland	77.6	22.4
Italy	29.4	70.6
Luxembourg	-	-
Netherlands	29.6	70.4
Portugal	83.2	16.8
Spain	63.5	36.5
United Kingdom	79.7	20.3
Finland	45.5	54.5
Norway	39.8	60.2
Sweden	26.6	73.4
Switzerland	25.1	74.9
Canada	100.0	0

Source: *Education at a Glance: OECD Indicators*, Paris, 1993

■ ***Sectoral analysis***

As table 12 shows, there has been some rationalisation to reduce the number of apprenticeship occupations. The tendency is now to have broader categories or families of occupations, with specialisation later.

Table 12 - No. of Apprenticeship Occupations

	CURRENTLY	FORMERLY*
B	200 +	
DK	86 courses, with more than 200 specialists	160 in 1979 300 in 1989
D	370	600 in 1969 465 in 1979
E	--	
F	236 (CAP qualification); 36 (BEP qualification)	299 in 1980
GR	25	
IRL	40 industrial (currently only 15 in test phase, agriculture and hotel and catering are extra)	50 in 1979
I	--	
L	130	more in industry but less in services than now
NL	400 +	35 in 1979
P	248 courses in 25 sectors	
UK	17 prototype apprenticeships being piloted 1994	

* Source: OECD (1979) Policies in Apprenticeship
PARKES, D. (1979) Craft Apprenticeship in Europe
CEDEFOP monographs

Although still represented in apprenticeship in all EU Member States, the agricultural sector has never held a prominent position. The secondary sector has always had the lion's share of apprentices until recent times. Skills needed in the various service occupations were, on the whole, provided on-the-job and initially such occupations were considered unskilled. The service sector turned to apprenticeship first through the hotel and catering industry. Since the 1960s, however, the services sector has experienced tremendous growth and has overtaken manufacturing as the highest employment-providing sector in all countries (see Table 13).

Table 13 - Total civilian employment by sector

	Agriculture Forestry, Fishing %	Industry %	Services %
Austria	7.1	35.6	57.4
Belgium	2.6	27.7	69.7
Canada	4.4	22.7	73.0
Denmark	5.7	27.7	66.6
Finland	8.6	27.9	63.5
France	5.2	28.9	65.9
Germany	3.1	38.3	58.6
Greece	22.2	27.5	50.3
Ireland	13.8	28.9	57.3
Italy	8.2	32.2	59.6
Japan	6.4	34.6	59.0
Luxembourg	3.3	30.5	66.2
Netherlands	4.0	24.6	71.4
Norway	5.6	23.5	71.0
Portugal	11.6	33.2	55.2
Spain	10.1	32.4	57.5
Sweden	3.3	26.5	70.2
Switzerland	5.6	33.9	60.5
United Kingdom	2.2	26.5	71.3
United States	2.9	24.6	72.5

Source: *OECD in Figures*, Paris, 1994

In **Germany**, the recognised skilled occupations in which young people are trained within the dual system are found in all branches, industry, commerce, services, crafts, agriculture, the public service, and others including liberal professions, home economics and navigation. **Denmark** has taken a similar direction since 1989. **Switzerland** has developed its apprenticeship to match all facets of modern day needs, distinguishing four types: traditional craft; industrial; modern craft (includes elements of the first two); and commercial-technical (which has a larger off-the-job element).

Nowhere does the complexity of analysing twelve countries manifest itself so vividly as in the examination of the sectors which are represented in apprenticeship. It is here that the national cultures emerge in their true colours. Unlike the British Isles, continental Europe has a strong craft sector "artisanat" which is difficult to understand for those not brought up with this concept because underneath it hides a multitude of branches and trades also known to the outside but usually described under their individual titles. Really what is meant by "artisanat" or "Handwerk" is the whole gamut of SMEs and craft industries which can be traced back to at least the 19th century.

In fact, when it comes down to looking at individual occupations, it is often the same occupations or families of occupations we find most represented in apprenticeship. If we look at some of the jobs in which it remains typical, they are not exactly crucial to the success of the economy but rather quaint sectors with cultural more than economic importance, e.g. goldsmiths, ceramics, pottery, handicrafts. In contrast, only in the **UK** and **Portugal** has the information technology sector been included in apprenticeship.

The tables in annex 10 give a detailed sectoral breakdown of apprenticeship in the Member States. The following table summaries the four most common sectors in apprenticeship in each country.

Table 14 - Sectors most frequented by apprentices

B	retail, personal services and hygiene, metal, mechanics
DK	Commerce and office, metal, construction, food
D	Commerce and office, metal, electronics, construction
E	Sectors covered by CEDEFOP in its work on comparability are foreseen
F	Hotel and catering, commerce and distribution, personal services and hygiene, baking and confectionery
GR	Automobile, electricity, machinery, hairdressing
IRL	Hotel and catering, construction, electricity, automobile
I	Retail, commerce
L	Commerce and office, personal services, construction, mechanics
NL	Automobile, electricity, metal, commerce
P	Combined services, metal, automobile, informatics
UK	Metal, construction, hotel and catering/distribution, banking and finance

- **Trends in female participation**

Although apprenticeship in all twelve Member States is available on an equal footing to both men and women, it is still a male-dominated training route. The gap between the sexes is closing in **Germany**, the percentage of women rose from 35.9% in 1960 to 42.6% in 1990. In Italy over two-thirds of apprentices are women but only because it is seen as a low-quality option and most of the openings are in office and retail outlets. In **Denmark**, the percentage of women rose from 32,8% in 1981 to 42,2% in 1993. The proportion in the **Netherlands** is 27.3% and here participation in technical training has genuinely increased, particularly for the construction and processing industries. In **France**, the percentage is 23.9%; in the **United Kingdom** 22%; in **Greece**, **Belgium** and **Luxembourg** less than 10%; and in **Ireland** 1.5% (craft industries). But even if the participation rates for women are rising, they are still concentrated in traditional female occupations, primarily in the tertiary sectors and with a high proportion in branches such as hairdressing, caring and stereotyped office, retail and catering jobs and their training concentrates on low level skills where it is doubtful if apprenticeship is the best means of delivery.

Therefore, although the balance between the sexes is levelling out, there is little indication of widespread female participation in the traditionally male-dominated manufacturing, craft and construction sectors. Münch (1994, p. 57) claims that this is due to the prejudices and traditional preferences of both the training-place seekers and the companies supplying them which society has not yet succeeded in changing. The swing is largely due to the decline of jobs in manufacturing and the corresponding expansion in the services where the jobs are predominantly "female". There are small signs of improvement is male-dominated occupations, in the past 1 in 900 employees in the construction industry in **Britain** was a craftswoman whereas in YTS, 1 in 70 new entrants was a girl (Haxby, 1989, p. 172). In engineering, 99.5% of craft workers were still male in 1988. Efforts were under way to encourage women to participate in order to overcome skill shortages, but change is slow. At professional level women represent 5% of engineers (EITB, 1988, p. 14).

Women in **Germany** are also concentrated in office and hairdressing occupations despite initiatives by the Federal Ministry of Education and Science to redress the situation - in 1986, "training and careers for women in technology-oriented occupations", and in 1989, a four-year information campaign intended to break down prejudices inhibiting women from entering technical and higher commercial occupations.

Impact of EU and international programmes

Portugal is the country in which the VET system has been most affected by entry into the EU (previously EC). The whole concept of apprenticeship which has been introduced in the last decade was inspired from the outset by existing models in other Member States. The results of the EU's work on the equivalence of qualifications and occupational profiles was also applied. Much attention is also being given to practice in the other Member States in the debate and controversy in **Spain** over the Law of

December 1993 which introduced the new apprenticeship system. Its critics say that it does not give adequate consideration to the norms and regulations governing apprenticeship elsewhere in the EU.

All countries are in agreement that it is the PETRA programme which has most impact in the area of apprenticeship. It is open explicitly to apprentices. It provides an outlet for a minority of apprentices to do a short training period or a study visit abroad. Apprentices from all countries except **Greece**, **Italy** and **Spain** have benefitted from exchange programmes. In a few cases, it also allows scope for cross-border development of training programmes by or for instructors involved in apprenticeship, partnerships, or exchange of ideas and experiences on practice, such as the project on modularisation of training being undertaken within the PETRA framework.

In **Denmark**, two new laws inspired by the PETRA programme were passed in 1992 entitling young people in vocational training courses to spend all, or part of, the practical work experience component in another EU or EFTA country. The periods spent abroad are fully recognised and accredited, and financial support is made available from the AER fund, created by a training levy paid by employers. Despite the limited experience so far, many vocational schools and Trade Committees would like to see placement abroad become an integral part of courses.

In 1992, the **Dutch** government published a discussion paper on the internationalisation of education and training which promotes: new exchange programmes for teachers and trainers; financial support for transnational exchanges for young people within the framework of PETRA; and the establishment of a national support agency for transnational exchanges. In 1993, 140 MBO colleges took part in at least one of these transnational programmes.

Compared to general youth exchanges or mobility of university students between EU Member States, opportunities for exchange in the field of initial vocational training are very under-developed. Only 0.5% to 1% of young people benefit from a placement period in another Member State which forms part of or complements their initial training. Such moves toward internationalisation are in keeping with the trend towards an international economy, the growth of multinational corporations, and expansion of the service sector which is more global than manufacturing allowing for greater work mobility. PETRA, plays an important role in promoting the "European Dimension" in training. The short stay abroad (circa three weeks) does not make for acquiring "hard" occupational skills. The value derived is concentrated in the area of, core skills such as interpersonal communication, independence and self-reliance, doing away with national stereotype and racial prejudice, increased mobility and exposure to a foreign language. Apprentices participating in exchanges generally avail of intensive foreign language courses before departure.

A measure of the growth of these exchanges is witnessed in the fact that the European Commission launched two studies in 1993 on: a) the legal and social status of young people on placements, and b) the validation and certification of such periods. The job-related value of such exchanges usually increases in relation to the length of the stay abroad, however in **Germany**, because of training regulations which legally bind the

apprentice to the company and because of the compulsion to attend the vocational school during training, apprentices are limited in the length of time they can spend away.

SESAM - Stages Européens en Alternance dans les Metiers - is a project which was started within the framework of EUROCREATION. Its objective is to encourage young people who have finished their apprenticeship to spend a period of 6 to 10 months abroad in order to promote their mobility. This was originally an initiative of the French Ministry for Enterprises and Economic Development, set up for three years during which 700 youth were placed in 500 companies. **France**, **Germany**, **Belgium**, **Luxembourg** and the **Netherlands** participate in SESAM. However, there seems to be a problem sensitising enterprises to the advantages of receiving apprentices from other countries.

Long before the advent of EU programmes, bi-lateral agreements existed between countries and these still flourish. The Deutsch-Französisches Jugendwerk organised exchanges for 5,716 **German** and 6,503 **French** youth in 1993. The C&G of London now certifies joint **British-Irish** courses. **Ireland** has a long-standing arrangement for the exchange of young farmers with **Denmark** and **New Zealand**, while the upsurge in interest in apprenticeship in the **UK** may have come via close ties with the **USA**. Certain sectors such as hotel and catering have a worldwide network of trainee exchanges and work placements abroad.

LEONARDO will incorporate PETRA as of January 1995. It pledges to support the development of apprenticeship as does YOUTHSTART, a new Structural Fund programme.

EUROPEN - European Practice Enterprises Network - facilitates the organisation of training placements abroad for trainees in the commercial sector. The founder countries are **Germany**, **Austria**, **France**, **Denmark**, the **Netherlands** and the **UK**. Other countries now participating are **Switzerland**, **Spain**, **Sweden**, **Hungary** and the **Czech Republic**. This development could provide interesting opportunities for future apprentices in the sector who wish to spend a period of training in another country.

Developments and trends

This section discusses the findings in the preceding part in light of criticisms and calls for reform found in previous literature on apprenticeship. It then looks briefly at apprenticeship in the context of some of the wider trends in education and training.

Overcoming the shortcomings of traditional apprenticeship

Williams, Singer/MacDonald, the OECD and, more recently, Jallade were doubtful about the future applicability of apprenticeship to modern day training needs, unless it changed to become a shorter, more standardised yet flexible, type of training offering a well rounded practical and theoretical training, with additional general education and a recognised qualification at the end. Let us now look at what changes have taken place.

When Modern and Accelerated apprenticeships become fully operational in the UK, Italy will be the only country where the apprenticeship contract is not a compulsory tool for managing the agreement between the employer and the apprentice. This development means that procedures and regulations have been standardised nationally and this facilitates labour mobility, at least on the home market.

As long as this contract is fulfilled the problem of using apprentices as cheap labour has also resolved. However, there is still room for improvement here. The contract has limited value unless there is some form of monitoring to see that its terms are carried out. Streeck (1992, p. 46) comes out very strongly in favour of an all-round control mechanism to hold the employer to his/her commitment to train. Such an authoritarian method works in the German context but employers in all EU Member States will not stand for being told what to do in their own companies. Some countries, Denmark, Luxembourg and the Netherlands, have delegated control to the relevant sector or branch and this solution works for them, but there are still others that have no external control mechanism.

The average age of apprentices is slowly rising and the age-band is broadening. Only Belgium, Italy, Greece (for some sectors) and the UK now have an upper age limit of 20 or less. This is one area in which apprenticeship has become more flexible, it is no longer the preserve of the school-leaver but is gradually opening up more to adults. But due to economic pressures and youth unemployment there is still much "front-end loading". Ashton/Green/Lowe (1993, p. 138) found, on the contrary, in Canada young people will stay on longer in school and will not start their apprenticeship until their late teens or early twenties thus completing in their mid- or late twenties. This pattern they claim bodes well for acceptance of the importance of life-long education and training. Young (1994, p. 14) puts forward a contrary argument, however, maintaining that "young Europeans who have been through youth apprenticeship programmes seem to be more skilled, responsible and stable at a much earlier age than their North American counterparts."

A sizeable imbalance exists between countries concerning the variety of occupations for which apprenticeship is provided. This has implications for future development of apprentice exchange between countries. On the one hand, there are Germany and Denmark where apprenticeships are available in a wide spectrum of occupations in all economic sectors, and no stigma is attached to it, nurses, banking personnel, shop assistant, etc. all take this training path. Even the German system, however, is considered to include too many occupations with no prospects for the future. In other countries, and particularly in the British Isles, apprenticeships, although highly regarded, are very much confined to industrial and trade craftworkers. This is also accountable for the small ratio of women apprentices in these countries. In the UK "apprenticeships are truly a male credential" with over one-third of all males employed in the goods production sector having completed an apprenticeship, compared with 6% of women (Ashton/Green/Lowe, p. 133). In yet another group of countries, including France and Belgium, apprenticeship is regarded as a training route into occupations mainly for those who have failed in school or in other career ventures. There is scope for much more flexibility on this point but it means changing attitudes which is a slow process.

With regard to the content of apprenticeship which was traditionally geared to one narrow specialisation, progress is being made through modularisation of courses which permits mixing of skills and attainment of cross-sectoral competence. The introduction of APL (accreditation of prior learning) to apprenticeship allows adults, in particular, to capitalise on their previous experience and combine it with new areas of activity. Gradually apprenticeship is being regarded as the first stage in life-long training.

Companies become more aware of the importance of quality control and quality management as ISO standards 9000 and 9001 and similar norms become widely used. Company training is also being seen as a target for quality control which is to be welcomed. Likewise, schools and training providers are under pressure to exercise higher standards and better quality training. To date, however, little progress has been made on the quality and quantity of instructors in on-the-job training. Their continuing training is lacking, most of them have no specific training for this task, except in Germany where it is obligatory.

Another criticism of apprenticeship was its dependency on regional economic structures and on general economic fluctuations. This remains a problem in most countries, apart perhaps from Germany where the system seems to cater for the occupational desires of entrants. Germany was about to experience a shortage of candidates to fill apprenticeship places in the early 90s but this was offset by reunification and places in former West Germany are now being filled by entrants from the new Laender in the former East Germany. All countries wax eloquently about adjusting training supply to market needs in their policies, but in apprenticeship this is difficult to follow up because in a recession employers will cut costs on items like apprentices, despite their future manpower needs. The EURES programme and the European Employment Observatories to monitor employment trends and manpower needs, units of which are to exist in each Member State, could provide some assistance in overcoming this problem.

There is a general malaise among large companies when it comes to participating in apprenticeship. In the majority of countries, apprentices are concentrated in SMEs.

Attempts to revert the situation in Belgium over the past decade have met with little success, with the industrial apprenticeship introduced in 1983 receiving a very low intake. In the school milieu a huge publicity campaign was launched to encourage young people to stay on full-time at school rather than to choose this form of apprenticeship (Debaty, 1985, p. 55). In Luxembourg, the Chamber of Commerce no longer keeps statistics on annual registration of apprentices in industrial occupations because the majority are now pursuing full-time CATP courses at technical schools. If apprenticeship is concentrated in SMEs only, the variance in quality from one company to another will be an even greater problem.

No universal formula for financing apprenticeship has emerged. Becker's (1964) argument, that the trainee should bear the cost of his/her own training since he/she benefits in the shape of higher wages, has often been applied but is rarely valid. In the UK wages for unskilled youth are quite high so that most young people, rather than work for low wages and training, prefer to go straight into a job (Oulton/Steedman, nd). In the case of Germany, it fascinates economists to know "why should profit maximising companies make net investments in marketable skills"? Franz and Soskice (1994) try to answer this question. They refute Becker's theory that a company would not make a contribution to training in marketable skills, because once the apprentice has acquired these skills, he/she must be paid the market wage, in which case it would be more profitable to hire someone trained elsewhere. Their conclusions are based on apprenticeship training in large companies which have a higher investment in training centres or workshops than smaller firms and also gain less net production form the apprentices who spend more time in practice situations than on-the-job. Yet, they claim that because apprenticeship gives the employer the opportunity to sort out the "lemons" and keep the best apprentices, it is cheaper than training "external hires" who they claim need up to 18 months training in company-specific skills before they can effectively utilise their "marketable skills". This issue is again being debated by Marsden and Büchtemann et al in *Formation-Emploi.*

Although not all apprentices receive adequate training on-the-job, improvements have been made. The introduction of schedules of tasks, workbooks and report sheets, etc. have tightened up the system and have made employers more aware of their duties. General attitudes to training in companies are changing as the idea of the "Learning Organisation" becomes flavour of the month. Employers are also beginning to appreciate the value of certification in raising the standard of the workforce. As we have seen, general education is now part of the curriculum for off-the-job training in all countries, except Italy. The content of this general education component is rather outmoded in some countries. In Germany it is seen as a weakness in the system which may be a problem as work becomes more abstract.

Some wider issues and trends

The tendency in many countries to decentralise, in keeping with the spirit of subsidiarity advocated by the Maastricht Treaty, could have mixed blessings for apprenticeship. While it would facilitate planning for local labour markets, if too much autonomy is given at local level on issues such as certification and examinations, it is possible that much of the harmonisation of qualifications and recognition of diplomas which has taken place at central level could be undone.

There is a drive to get more people into higher education, particularly at university level. At the same time however, it is estimated that in a highly industrialised society, 80% of available jobs do not require a university degree. 85% of the jobs do require a sound, appropriate secondary education and one or two years of intensive technical education in health, business, service or industrial/technical fields (Young/Gauss, 1994, p.11). Therefore, rather than pressurise young people into staying on in upper secondary education in order to assure access to higher education, it would be much more profitable to give support to another parallel development, namely the increased links between vocational and academic strands. As was discussed in the section on parity and progression, more young people who have chosen an apprenticeship or vocational-school path can have their qualification recognised for entering higher education, or at least have access to bridging courses which will take them into higher education. As the barriers between jobs are broken down, so must the differentiation between the various strands of education disappear. Not every young person needs to enter higher education but they need to have the way open to them to acquire whatever continuing training their future career may entail, regardless of where or at what level this training is dispensed.

Such an integrated system should provide a form of pre-apprenticeship or foundation which would serve to orient young people towards the right choice of course. In the Netherlands there is a good basis for such a system. At secondary level, the VBO stream is similar to pre-apprenticeship. This can be followed by an option of apprenticeship for two years, with entry to work, a higher level apprenticeship, or return to mainstream upper secondary as options on completion. As introductory vocational subjects disappears from the curriculum, other countries are following the German example of the "Berufsbildungsgrundjahr" and introducing a pre-apprenticeship or transition year, Portugal for example, and France which can't make up its mind whether to maintain the pre-vocational initiation after the 5th form (OECD, 1994). There is also a trend in North America in this direction which is necessitated by the fact that, in the USA for example, approximately 1.4 million high school graduates go into the labour market each year with little or no job training. Clinton is proposing a federal apprenticeship programme involving companies and secondary schools.

Alberta, Canada, has introduced a new Registered Apprenticeship Plan (RAP) for upper secondary school students. Over a three year period, students spend part of their time in school and part in industry as a registered apprentice. They are counted as full-time students working for a diploma, in addition to gaining credits towards a registered apprenticeship. Those who complete the programme will earn a high-school (secondary school) diploma and can continue their apprenticeship, having accumulated as much as one year in time credits towards the usual four-year apprenticeship programme (Young/Gauss, 1994, p. 11).

Rault maintains that familiarisation with NIT has now become the "rule" in VET. The replies to our questionnaire did not bear this out for apprenticeship, although a second enquiry was undertaken asking for clarification on this point. Only in France was it clearly incorporated into the curriculum. In the UK it was mentioned that the computer system of the company was used by apprentices. A survey of manufacturers and construction sectors in Ireland, 1989, found that 45% of craftspersons and 47% of craft apprentices were in need of further training in new technology (Roche/Tansey, 1992, p. 61). In both Denmark and Ireland it was stressed that technology was an important aspect of on-the-job training.

One of the dilemmas now being faced is whether or not apprenticeship is a suitable type of training for high tech industries with high capital cost equipment which cannot be entrusted to inexperienced apprentices. Suppliers are providing training services with such equipment for existing staff. Because such companies need state of the art equipment in order to compete economically, their facilities are far superior to those in schools where the renewal of equipment is dependent on numbers of students and availability of funds. It would therefore be very advantageous to an apprentice to acquire practical experience on-the-job in such a company. Foundation courses with simulation training in off-the-job workshops would, however, be a sina qua non.

In Luxembourg reform took account of the fact that certain students possess the capacity to learn the practical aspects of a trade, but are unable to assimilate the related theoretical aspects at the same pace. The Preliminary Technical and Vocational Certificate (CITP) has been introduced to cater for such students to enable them to undertake their training in two phases. The CITP is awarded at the end of the first phase which lasts for between two and four years following the conclusion of a special apprenticeship contract with an employer.

Concurrently, theoretical instruction is pursued at a technical school, at the apprentice's own pace, in courses suited to his/her learning capacity. Under this modular system, he/she can, in time, obtain a CITP. Holders are then encouraged to proceed to the second phase leading to the CATP. To this end, they can conclude a normal apprenticeship contract or on the basis of their qualifications, take up a job and attend theoretical courses provided in the context of adult education. This seems to be an idea worth attention for countries which have high dropout rates as a result of indifference to the theoretical training aspect.

The importance of the workplace for learning cannot be too highly stressed. Work is the only situation which can facilitate the process of "professional socialisation" and is, possibly, the best way of providing communication, interpersonal and problem-solving skills. It has now been rediscovered in the new concept of the "learning organisation". Workplace learning is one of the strong points of apprenticeship, an element which has kept it alive because it is irreplaceable.

"Education and Training after Basic Schooling" (OECD, 1985, p. 77) made reference to the problem caused by increased age segregation of young people in post-16 provision. Growing isolation of youngsters from adults and increased differentiation into age groups makes communication and interaction between youth and adults (apart from teachers) difficult. Apprenticeship is one path which opens up numerous possibilities in the form of social interaction and communication at the workplace, with

an adult peer group. What Vygotsky (1978, p. 86) called their "zone of proximal development" is enlarged in the workplace. This zone he explains as "the distance between the actual development level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration".

The pedagogical and social pluses of German apprenticeship are corroborated by Hamilton (1990) who states that in contrast to the USA, German youths change their peer groups at least twice. They interact simultaneously in two extra-familial contexts, the company and the vocational school. Thus, they cooperate with more competent adults and become generally more prepared to cope with life. In the same vein, Streeck (1992, p. 42) puts the success of the German system down to workplace learning. "A very important lesson from the German system and,.... also from the Japanese system, is to recognise the extreme importance for learning of the work process and experiential knowledge. This is especially crucial when working with technology, such as microelectronics, which is undefined and where work and experimentation are merged. Such technologies are defined by their application. Where products and manufacturing processes change very fast, workers always must improvise. In improvising they have to rely on experiential skills which must be emphasised in training and can only be acquired at the workplace".

The cognitive psychologists emphasise the importance of experiential learning. One of its main protagonists, Kolb (1984), developed his theory of four stages which could be applied to apprenticeship. Stage 1: "concrete experience" by doing something (period of work); stage 2: "reflective observation" (school-based period); stage 3: "abstract conceptualisation" (relating it to own experience could be done on and off the job); stage 4: "active experimentation" (suitable to the final stages of apprenticeship when the apprentice is capable of carrying out more independent work).

The OECD 1979 report had a number of criticisms and short-comings to remark on. It concluded that there was a strong development in education-based training to the detriment of apprenticeship. Many of these developments were alternating courses, such as the vocational baccalaureate in France or the TVEI in the UK. They would now appear to have found their niche within the system, whereas apprenticeship is again on the agenda for revision in many countries. But before any more swopping and changing from one type to the other takes place, an empirical, longitudinal study needs to be undertaken in each country, to assess the progress on the labour market of those leaving school-based training and apprenticeship. It should ascertain:

- Which group is preferred by employers, i.e which group has the easiest access to employment?
- Which group has more flexibility on the labour market?
- Which group has the least problems in transition to working life?
- Which group has more access to continuing training and therefore go on to better positions as their career develops?

Another study needs to be carried out on the motivation of young people. Work at the Centre for Labour Market Studies (CLMS) found that working class youth in the UK prefer to go to work at 16. This belief should be further researched to see if it is true for all countries. High dropout rates in Denmark are explained by the fact that the theoretical component of courses has been strengthened and the level raised, not because they dislike the workplace component. Such a study should, therefore, probe whether apprenticeship is an acceptable alternative to direct entry into unskilled jobs for young people.

Another aspect which needs further examination is the relationship between the practical training provided on-the-job and the theoretical training provided off-the-job. In smaller countries, and especially in less populated areas, it is difficult to see how education and training establishments could possibly provide the range of training needed. This is an acknowledged problem in Portugal where the division of training between the company and the school depends on geographical location and not on the basis of learning needs or course programming. Spain is introducing distance learning courses to provide such theoretical training.

Another topic which has not been touched on here which needs thorough examination is the question of vocational guidance. Perhaps, if better guidance was-available the dropout rates would be reduced.

The fact that many Member States were unable to give an answer when asked what percentage of an age cohort go into apprenticeship points to the need for better statistics. Before embarking on further changes or improvements, the first thing responsible organisations need to do is to quantify the number of people affected. Having done this they could judge whether or not the system has reached its limits or is capable of expansion, and then determine the size of the investment to be made.

Conclusions

Not all of us are suited to staying on in full-time education or training. Some people tire earlier of regimented school-life and are more suited to joining the ranks of the employed. It is doubtful if unskilled youth have anything to contribute at the workplace in this technological age. Therefore, one possible way of giving them access to the workplace is through apprenticeship.

Apprenticeship still remains a valid method of training those who have left school early or those who have difficulty learning in the school system, who while they have little aptitude for school, may have an aptitude for learning in the work situation. But there should be no stigma attached to this. The work environment and the employee status may be more of a motivation for them to learn than the school environment where they have never experienced success or have had positive experiences of achievement.

It seemed at one stage in many countries where alternative forms of alternating training were introduced that they would replace apprenticeship. In the UK, in particular, apprenticeship numbers dropped significantly when YTS was introduced. These alternatives have now found there place within the system and it has emerged that there is still a place for apprenticeship, in addition. But like all forms of initial training, apprenticeship is only a stepping-stone to continuing training which is now imperative throughout working life.

Apprenticeship is one way of ensuring employer participation in the planning, conceptualisation, cost and organisation of training. Governments have been overburdened by special measures for the unemployed, they have to reconsider ways of sharing the burden. An important motivation behind the re-launch of apprenticeship in Finland, in 1993, was economic. In recent years, it has been necessary to cut educational costs heavily and various forms of on-the-job training are less expensive than the training given at vocational colleges.

One type of training is not suitable for everyone, therefore variety and choice within the VET system are necessary. Not enough places could ever be made available for everyone to enter an alternating system. The companies could forget about production if they were to provide such a facility. Furthermore, it must be possible to transfer, both horizontally and vertically, to other forms of education and training within the system, since not everyone chooses the most suitable route straight off. This is why developments such as those under way in France, Denmark, and the Netherlands to create an integrated system of education and training have their merits and are in keeping with the general tendency for greater fusion and equality of education and training.

As we have seen, at least twelve distinct apprenticeship systems still exist and from 1995 the EU includes fifteen Member States. But they all have, more or less, the same main characteristics. The current preoccupations about development and motivations behind reforms are mirrored from one country to the next. As Guthrie and Pierce (1990, p. 179) recommend, it is important that they address the same issues. "The new international economy is affecting more than business. It is also reshaping education in many industrialised nations.... despite continuing differences among the world's schooling systems, the emerging global economy virtually demands that nations now address similar educational issues".

ANNEXES

- Annex 1 -

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Annex 2

Statistical Sources

General

Some comparative statistics were found in CEDEFOP publications and other unpublished CEDEFOP reports. The principle source of international statistics used was the OECD, and to a lesser extent EUROSTAT which provides good demographic and labour market statistics but, unfortunately, has produced no training statistics since 1985.

Three basic works from the OECD were used:

OECD in Figures	- an annual summary statistical brochure
Education at a glance	- an annual statistical report
OECD Employment Outlook	- an annual report on employment trends and forecasts

Belgium
Institutes of the "Middle Classes"/VISO

Denmark
Ministry of Education

Germany
Federal Ministry of Education and Science:

Berufsbildungsbericht	- an annual report of training in Germany
Grund- und struktur Daten	- annual statistics of education and training

Spain
INEM
Ministry of Education
Newspapers and articles

France
Ministry of National Education:
Notes d'Information de la DEP - periodical
Premières informations, DARES - periodical
Repères et références statistiques sur les enseignments et la formation - annual statistical report on education and training

Greece
OAED

Ireland
FAS annual reports and *Labour Market Review*
CERT annual reports
TEAGASC annual reports
Ministry of Education

Italy
Unpublished statistics from ISFOL
CENSIS

Luxembourg
Chambre des Métiers
Chambre de Commerce

Netherlands
COLO
Ministry of Education

Portugal
Ministry of Education
Ministry of Employment and Social Security - Institute of Employment and Vocational Training (MESS-IEFP)

United Kingdom
Training Statistics - an annual statistical report from the Employment Department
Labour Force Survey - quarterly bulleti[illegible] from the Employment Department

Annex 3

ALTERNATING TRAINING INITIATIVES TO ALLEVIATE YOUTH UNEMPLOYMENT, ETC

In 1983, the Council of the EC issued a resolution on "Vocational Training Policy in the Community in the 1980s". One of the main thrusts of this document was to guarantee access for unemployed school-leavers to full-time training/work experience programmes. Such a combination of training and work experience has been an important element in Community policy on the transition of young people from school to working life. Community policy and recommendations are bound to have had some influence on the series of initiatives which ensued in the Member States.

BELGIUM
Royal Decree No. 495, January 1987 introducing training contracts for 18-25 year olds, based on temporary reduction of employers' contributions to National Social Security for those who take on young job seekers.

DENMARK
EIFU Vocational induction courses - an introduction to working life for young people from 15 to 30 years old, were introduced in 1972. A new vocational scheme to be run by the municipalities, has been decided in 1994, based on more practical workplace training and at a less theoretical level than the present apprenticeship.

SPAIN
Ministerial Order, 5 February 1988, regulating the experimental vocational modules. A training structure of two short cycles (1,100 + 800 hours) to facilitate the skilling of young people and the re-skilling of workers, and therefore, aid their integration into working life. Between June 1988 and June 1991 the order was amended and elaborated on nine times.

FRANCE
Under the agreement of 26 October 1983, the social partners created three alternance training measures: the Stage d'Initiation à la Vie professionnelle (period of introduction to working life), the Contrat de Qualification professionnelle (vocational qualification contract for young people aged under 26 who hope to supplement their initial training by job-related training), and the Contrat d'Adaptation (adaptation contract aimed to provide young people under 26 with training that will help them adapt to a job or a type of job). These measures were introduced on a general scale by the law of 24 February 1984. The national inter-industry agreement of 3 July 1991 and the law of 31 December 1991 replaced the Stage d'Initiation... by the Contrat d'Orientation (guidance contract for young people under 22 who do not hold a diploma of technological or vocational education, and who have not completed their second cycle of general education) and made a few changes to the content and practical procedures of other contracts.

IRELAND
The YOUTHREACH programme was introduced in 1985 as part of the programme for National Recovery. It is designed to cater for young people aged 15-18 and not catered for under the traditional education/training network. The objective of the programme is to provide these young people with a knowledge, skills (both technical and social) and attitudes necessary to make a successful transition into work and adult life.

ITALY

Law No. 285 1977 on measures to promote youth employment, launched the employment-training contracts. Offering incentives to employers recruiting young people registered on a special placement list, it was important because it gave the Regions express responsibility for promoting and authorising training schemes in enterprises and consortia of enterprises. Brought up-to-date by Law No. 863, 1984, as the instrument for promoting employment of young people between 15 and 29 years old. They were described by Pescarollo (CEDEFOP, 1985, p. 29) as "an incentive for firms to use young people".

NETHERLANDS

The Sectoral Training Grant Scheme (Bijdrageregeling Bedrijstakgewijze Scholing - BBS) benefits initiatives launched by sectors of industry to train unemployed job-seekers. The training plans must be drawn up under the joint responsibility of employers' and employees' organisations representing at national level the sector to which the plan relates. The focus is on SMEs because of their relatively greater need for training and the favourable employment prospects they offer.

UNITED KINGDOM

The Youth Training Scheme (YTS), introduced in the early 1980s was a one year training scheme for school leavers, whether unemployed or in employment and it brought together a number of separate programmes such as YOP, the Youth Opportunities Programme. It was later extended to two years and was seem by some as a substitute for apprenticeship. Although it took a long time to disassociate itself from the problem of youth unemployment, it has now become the main training option for young people leaving school aged 16 to 18 under the name Youth Training (YT). Eligibility for YT is up to the 25th birthday and it can also cover those in employment.

Annex 4

ALTERNATING COURSES INTEGRATED INTO THE EDUCATION SYSTEM

DENMARK
The 1975 law which still governs lower secondary education made provision for an element of work experience at school. Basic initial training (EFG) was also alternance training consisting of the first year in vocational school and subsequent training divided between the school and a company. It was incorporated into apprenticeship in 1989.

FRANCE
Bacalauréat professionnel

IRELAND
Leaving Certificate Vocational Programme
Vocational Preparation and Training Programmes

SPAIN
Since 1984, Formación Reglada - the vocational stream of secondary education - includes an optional in-company work experience programme for FP-II pupils, i.e. pupils in the upper secondary vocational stream.

NETHERLANDS
"Dualisering", the introduction of alternating courses for all upper secondary vocational education (MBO) is still in the planning stage.

UNITED KINGDOM
Technical and Vocational Educational Initiative - TVEI

Annex 5

LEGISLATION EFFECTING APPRENTICESHIP IN FORCE IN THE MEMBER STATES

BELGIUM

The 1947 Decree on Apprenticeship is still the only legislation devoted solely to this matter. It has been completely reshaped to comply with the Law of 21 June 1983 on the extension of compulsory education and the Decree of 3 July 1991 which separated the Institutes for Continuing Training for the "Middle Classes" for the Flemish and German Communities from the French Community to form VIZO. Other legislation on Federalisation had also had an effect, e.g. the division of the Ministry of Education by Community.

DENMARK

Law No. 210 1989 concerning vocational schools
Law No. 211 1989 concerning vocational education and training

FEDERAL REPUBLIC OF GERMANY

Federal Training Act 1969, latest revision 1994.

Vocational Training Promotion Act, latest revision 1992, on the duties of the BIBB.
Craft Code 1969, latest revision 1993.

School Laws of the Länder.

SPAIN

Royal Decree-Law 18/1993, 3 December 1993 Medidas Urgentes de Fomento de la Ocupación.

Royal Decree 2317/1993, 29 december, on work experience, apprenticeship and part-time contracts.

Law 10/1994, 19 May, on urgent measures to promote employment.

Order, 19 September 1994, regulatinig certain traiing aspects of the apprenticeship contracts.

Resolution, 18 October 1994, of the General Management of INEM on th development and application of the Order of 19 September 1994 regulating certain training aspects of the apprenticeship contracts.

FRANCE

Law No 516, 16 July 1971, gave the apprenticeship contract a labour contract status, created the apprenticeship training centres (CFAs) and assured financing from the training levy.

The Order of 2 February 1977 gave precision on the apprenticeship contract.

Further legislation on 12 July 1977 and 3 January and 10 July 1979 modified the financing mechanism.

Law No 572 1987 gave apprenticeship equal status with other forms of vocational education giving the apprentice successive access to all levels of vocational qualification.

Law No 675, 17 July 1992, brought the apprentice allowance into line with remuneration for other forms of youth training schemes to diminish competition and make apprenticeship more attractive to apprentices and employers. It also introduced apprenticeship in the public sector.

Law No 3113, 29 December 1993, counts among its objectives the improvement of apprenticeship by opening it up to public and private educational establishments other than those run by the Ministry of Education and by introducing a new title of apprenticeship instructor as of 1 January 1996.

GREECE

Royal Decree 3 June 1952 on the education of apprentice technicians.

Law 1346/83 on modification and completion of provisions for labour legislation and regulation of other matters.

Law 156685 on the structure and operation of primary and secondary education and other provisions.

Law 1836/89 on promotion of employment and vocational training and other provisions.
Various royal decrees, presidential decrees, ministerial decisions and laws governing the requirements and licences for practising trades, recruitment and appointments, etc.

IRELAND

Industrial Training Act 1967

The Labour Services Act 1987.
Apprenticeship Rules 1993 set the new statutory rules for the standards-based apprenticeship system and specify the minimum requirements for apprenticeship, the compulsory nature of training, and assessment and attendance by apprentices at off-the-job phases of training. It will be extended to all craft trades in 1995 when it becomes fully operational.

ITALY

Law No 25, 19 January 1955.

LUXEMBOURG

Legal order, 8 October 1945 on the revision of the law of 1929 on apprenticeship.

Law of 4 September 1990 on technical secondary and continuing vocational training which incorporated apprenticeship into intermediate cycle of technical education.

NETHERLANDS

The Apprenticeship Act passed in the late 1960s still governs the relationship between the school and practical component of apprenticeship, including the contract. However, as the apprenticeship system forms part of vocational education it also comes under the Vocational Education Courses Act (WCBO) which entered into force on 1 August 1993. The act forges a link between the apprenticeship system and senior secondary vocational education (MBO) and between part-time and full-time vocational education and training activities (Manpower Services Organisation model).

PORTUGAL

Decree-Laws no. 102, 29 March 1984 and no. 436, 23 November 1988 on apprenticeship

Decree-Law no. 383, 9 October 1991 and Regulating Order no. 1061, 13 November 1992 on pre-apprenticeship

UNITED KINGDOM

There are no laws governing apprenticeship in the UK. On 2nd December 1993, the Secretary of State for Employment announced plans for the introduction of Modern Apprenticeships and recommendations on their implementation were issued by the Employment Department, 1994. Prior to the 1964 Industrial Training Act, tradition was to avoid training legislation. This law gave a big boost to apprenticeship through the creation of a training grant levy and the Industrial Training Boards but it is no longer relevant since the levy and most of the Boards have been abolished. The government in its White Paper, *Education and Training in the 21st Century*, 1991, was forceful in its opposition to statutory compulsion: "The commitment of young people and their employers to training needs to secured by voluntary means. Compulsion on employers or young people in unnecessary".

Annex 6 - RESPONSIBLE BODIES AND CERTIFICATES

Adapted from: Gordon, J; *Systems and procedures of certification of qualifications in the European Community*, CEDEFOP, 1993

COUNTRY	OVERALL RESPONSIBILITY	NAME OF CERTIFICATE AWARDED	ORGANISATION OF ASSESSMENT	COORDINATION SCHOOL/ENTERPRISE
BELGIUM	Ministry of Education of each Community Ministry of Labour of each Community	Certificat d'apprentissage des Classes Moyennes Certificat d'apprentissage industriel	Training centres are responsable for the assessment function	Institutes of the "Middle Classes" Joint Apprenticeship Committee
DENMARK	Ministry of Education (or Ministry of Industry for maritime training) and National Trade Committees for the trade expertise	Certificate of Apprenticeship (journeyman's certificate, comprising Skolebevis, Praktikerklaering, Svendebrev)	The Ministry responsible determines what will be examined. The colleges devise the exam papers and carry out assessment. Some external examiners for control purposes. The Trade Council defines the skill content.	Trade Committees
FRANCE	Ministère de l'Education nationale Ministère de l'Agriculture	Certificat d'aptitude professionnelle (CAP) Brevet d'enseignement professionnel (BEP) Brevet de technicien supérieur (BTS) Baccalauréat Professionnel Diplôme universitaire de technologie (DUT) Certificat d'aptitude professionnelle de l'agriculture (CAPA)	Ministry establishes requirements for passing exam. Papers devised and timetable established by regional offices (Rectorat). Also nominate exam panels. Externally examined. Award conferred by Rectorat Exam panel nominated by Ministry who agree on content of exams. Centre sets timetable, paper and corrects. Award conferred by Ministry.	Representative of the Ministry of Education in the Département
GERMANY	The Ministry of Education of each Land for the school-based part and the Chamber of Industry and Commerce or of Crafts or the competent body for the firm-based part	Facharbeiterbrief (Industry) Gesellenbrief (crafts) Gehilfebrief (tertiary sector)	The Ministry of Education for each Land has overall responsibility for the school-based part. Exams set and carried out in school by teachers. The Chambers of Industry and Comerce or of Crafts or the competent body examines the firm-based part.	Chambers
GREECE	Ministry of Labour	Speciality Diploma	Apprenticeship schools are responsible for assessment	OAED

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IRELAND	FAS for the Department of Enterprise and Employment/ Department of Education NTCB/CERT Department of Education Teagasc	National Craft Certificate Joint FAS/C&G Certificates Craft Certificate in Tourism and Catering Farm Apprenticeship Scheme Certificate in Farming	Exams are set by Department of Education. Carried out and marked in training centre. Award conferred by FAS or NTCB. FAS devises exams. Carried out in training centres. Joint accreditation by FAS and C&G. Exams devised by Teagasc. Carried out and marked in training centre. Award conferred by Teagasc.	FAS CERT TEAGASC
ITALY	Ministry of Employment and the Rgions or Autonomous Provinces	Certificato di qualifica professionale (settore artigianato	Same regulations for regionally organised awards but panel includes representatives of ministries and social partners	-----
Luxembourg	Ministry of Education and the *Chambres professionnelles*	Certificat d'aptitude technique et professionnelle (CATP)	National exams. Marked under supervision of exam panel. Award conferred by Ministry of Education and the Chambers	Chambers
Netherlands	Ministry of Education	Primair/Secundair Leerlingwezen (apprenticeship diploma primary level/tertiary level)	Centrally set examinations. Administered by a Ministry of Education appointed board in consultation with the relevant national body (LOB). Also college examinations. Award conferred by school on behalf of Ministry of Education and the LOB.	National Boards
Portugal	Ministry of Employment and Social Security (by IEFP)	Certificado de aprendizaje	Awards conferred by the Ministry of Education or the IEFP.	IEFP
Spain	Ministry for Employment and Social Security/ Ministry of Education	Certificado de Profesionalidad		INEM

United Kingdom	Employment Department through the TECs	NVQ Level 2/3 City and Guilds Craft Certificate RSA Certificate BTEC 1st Diploma	Accreditation by NCVQ City and Guilds and RSA examinations devised and delivered centrally by each board. Award conferred by each Board. BTEC issues guidelines and moderates. Examinations devised and delivered by the teaching institution which confers award.	TECs

Annex 7

EU TRAINING LEVELS

LEVEL 1

Training providing access to this level: compulsory education and professional initiation

This professional initiation is acquired at an educational establishment, in an out-of-school training programme, or at the undertaking. The volume of theoretical knowledge and practical capabilities involved is very limited.

This form of training must primarily enable the holder to perform relatively simple work and may be fairly quickly acquired.

LEVEL 2

Training providing access to this level: compulsory education and vocational training (including, in particular, apprenticeships)

This level corresponds to a level where the holder is fully qualified to engage in a specific activity, with the capacity to use the instruments and techniques relating thereto.

This activity involves chiefly the performance of work which may be independent within the limits of the relevant techniques.

LEVEL 3

Training providing access to this level: compulsory education and/or vocational training and additional technical training or technical educational training or other secondary-level training

This form of training involves a greater fund of theoretical knowledge than level 2. Activity involves chiefly technical work which can be performed independently and/or entail executive and coordination duties.

LEVEL 4

Training providing access to this level: secondary training (general or vocational) and post-secondary technical training

This form of training involves high-level technical training acquired at or outside educational establishments. The resultant qualification covers a higher level of knowledge and of capabilities. It does not generally require mastery of the scientific bases of the various areas concerned. Such capabilities and knowledge make it possible in a generally autonomous or in an independent way to assume design and/or management and/or administrative responsibilities.

LEVEL 5

Training providing access to this level: secondary training (general or vocational) and complete higher training

This form of training generally leads to an autonomously pursued vocational activity - as an employee or as self-employed person - entailing a mastery of the scientific bases of the occupation. The qualifications required for engaging in a vocational activity may be integrated at these various levels.

Source: Council Decision of 16 July on comparability of vocational training qualifications between the Member States of the European Community, L199, 31.7.85

Annex 8 Share of persons 15-29 years in the total population

C3: Youth and population

C3 : Jeunes et ensemble de la population

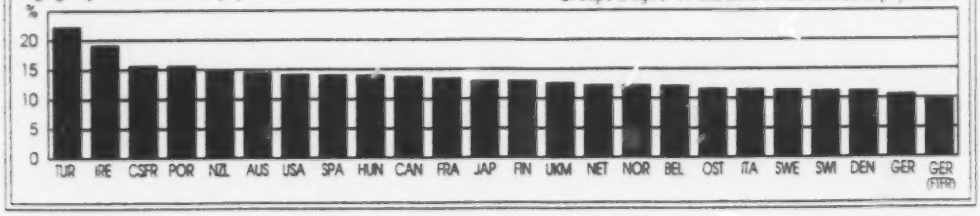
Table C3:
Share of persons 5-29 years of age in the total population (in %) (1991)

Tableau C3
Population âgée de 5 à 29 ans dans l'ensemble de la population (en %) (1991)

See Annex 1 for notes	Age groups / Groupes d'âge				Voir notes en annexe 1
	5-29	5-14	15-24	25-29	
North America					Amérique du Nord
Canada	36.7	13.7	14.2	8.8	Canada
United States	36.9	14.1	14.5	8.3	Etats-Unis
Pacific Area					Pays du Pacifique
Australia	38.7	14.5	16.0	8.2	Australie
Japan	34.8	13.0	15.3	6.5	Japon
New Zealand	39.6	14.9	16.4	8.3	Nouvelle-Zélande
European Community					Communauté européenne
Belgium	33.9	12.1	13.8	8.1	Belgique
Denmark	33.8	11.2	14.7	7.9	Danemark
France	35.8	13.4	14.9	7.6	France
Germany (FTFR)	32.4	9.9	13.6	8.9	Allemagne (ex-territoire de la RFA)
Germany	32.7	10.6	13.4	8.8	Allemagne
Greece	-	-	-	-	Grèce
Ireland	43.1	19.1	17.4	6.5	Irlande
Italy	35.8	11.5	15.9	8.4	Italie
Luxembourg	-	-	-	-	Luxembourg
Netherlands	36.8	12.2	15.7	8.9	Pays-Bas
Portugal	44.4	15.6	17.9	11.0	Portugal
Spain	39.1	14.0	16.8	8.3	Espagne
United Kingdom	35.6	12.6	14.7	8.3	Royaume-Uni
Other Europe - OECD					Autres pays d'Europe - OCDE
Austria	35.3	11.6	14.9	8.8	Autriche
Finland	33.3	13.0	12.9	7.5	Finlande
Iceland	-	-	-	-	Islande
Norway	35.1	12.2	15.2	7.7	Norvège
Sweden	32.0	11.4	13.5	7.1	Suède
Switzerland	33.1	11.2	13.7	8.3	Suisse
Turkey	50.3	22.2	20.0	8.2	Turquie
Country mean	**36.8**	**13.3**	**15.2**	**8.2**	**Moyenne des pays**
Central and Eastern Europe					Europe centrale et orientale
CSFR	37.8	15.6	15.2	6.9	RFTS
Hungary	34.5	14.0	14.6	5.9	Hongrie

Age group 5-14 in the total population

Groupe d'âge 5-14 ans dans l'ensemble de la population



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Under 25 years
Males and females

1986	22.5	23.4	7.6	7.8	24.2	45.7	24.6	26.8	33.5	6.1	18.2	19.7	18.0
1987	21.3	22.4	7.9	7.1	24.7	43.1	23.6	26.3	33.6	5.7	17.1	16.4	15.4
1988	19.8	20.3	8.7	6.8	25.6	40.3	22.1	25.0	33.0	4.8	14.6	13.1	12.4
1989	17.6	18.1	10.8	5.5	24.7	34.1	20.4	21.8	31.9	4.3	13.3	11.6	10.2
1990	16.8	17.0	11.1	4.5	23.3	32.2	20.1	20.9	29.1	3.9	11.7	10.5	10.8
1991	17.7	16.7	11.2	3.8	24.6	31.1	21.3	24.5	28.5	3.2	11.4	9.1	15.0
1992	18.4	17.6	11.4	4.0	:	32.9	21.8	27.6	28.5	3.8	11.8	9.0	16.1
1993	20.2	19.6	11.4	4.9	:	37.8	23.1	27.9	30.5	5.7	15.0	10.3	16.2
						Males							
1986	20.7	17.3	6.1	6.8	16.0	43.1	21.3	[illegible]	28.0	5.2	17.3	15.7	19.0
1987	19.1	15.9	6.7	6.5	17.4	38.0	19.7	28.4	28.1	4.5	15.9	12.5	16.4
1988	17.4	15.1	7.8	6.2	16.8	34.1	18.3	26.8	27.6	4.4	13.9	9.6	13.3
1989	15.2	13.6	9.9	5.1	16.9	27.6	16.6	23.3	26.0	3.6	12.0	8.7	11.0
1990	14.7	12.7	10.4	4.3	15.2	26.2	16.5	22.1	23.8	3.2	10.9	8.2	11.9
1991	16.3	13.6	10.2	3.9	17.1	25.7	18.1	25.9	24.2	3.2	10.8	6.5	17.3
1992	17.4	14.8	10.4	4.1	:	28.3	19.1	29.0	24.4	4.0	11.9	7.6	18.9
1993	19.5	17.3	10.7	5.3	:	34.4	21.1	29.5	26.5	6.4	15.4	8.4	19.1
						Females							
1986	24.5	29.8	9.3	8.9	34.2	49.3	28.0	23.8	40.0	7.1	19.0	24.9	16.8
1987	23.9	29.3	9.3	7.7	33.6	49.4	27.6	23.7	40.2	7.0	18.3	21.3	14.3
1988	22.4	25.8	9.7	7.4	35.6	47.7	26.0	22.7	39.2	5.2	15.4	17.5	11.3
1989	20.3	23.0	11.8	5.8	33.7	42.0	24.3	19.9	38.6	5.1	14.6	15.1	9.2
1990	19.1	21.6	11.8	4.7	32.7	39.4	23.8	19.5	35.4	4.7	12.5	13.3	9.5
1991	19.3	20.0	12.4	3.8	33.5	37.8	24.6	22.7	33.7	3.1	12.0	12.1	12.1
1992	19.5	20.6	12.4	3.8	:	33.7	24.7	25.8	33.6	3.6	11.7	10.7	12.6
1993	21.0	22.1	12.2	4.5	:	42.3	25.2	25.9	35.5	4.7	14.5	12.6	12.8

Source: EUROSTAT Unemployment 6/1994

Annex 9

Source: EUROSTAT Unemployment 6/1994

Under 25 years

Males and females

1993 04	20.1	19.4	11.7	4.8	:	37.2	22.9	28.4	30.9	5.4	15.0	10.5	16.1
1993 11	20.4	20.3	11.6	5.2	:	38.4	23.6	27.8	30.8	6.4	15.5	10.5	15.7
1993 12	20.4	20.3	11.1	5.2	:	38.5	23.8	28.1	30.8	6.5	17.0	10.9	15.5
1994 01	20.5	20.5	11.1	5.2	:	38.7	23.6	27.6	30.7	6.5	17.2	11.3	15.6
1994 02	20.5	20.6	11.1	5.3	:	38.6	23.7	27.3	30.7	6.9	18.2	11.5	15.5
1994 03	20.7	20.7	11.3	5.4	:	38.5	23.7	27.5	31.7	7.2	15.9	11.8	15.3
1994 04	20.6	20.7	10.9	5.4	:	38.0	23.7	27.1	32.4	7.5	:	12.3	15.1

Males

1993 04	19.3	17.0	11.0	5.2	:	33.9	20.8	29.9	26.7	6.4	15.4	8.2	19.0
1993 11	19.7	18.1	10.6	5.7	:	35.2	21.6	29.1	26.8	7.1	15.3	9.1	18.5
1993 12	19.7	18.2	10.3	5.7	:	35.2	21.8	29.3	26.7	7.3	17.0	9.4	18.2
1994 01	19.8	18.4	10.2	5.7	:	35.5	21.6	29.0	26.5	7.3	18.1	9.7	18.4
1994 02	19.9	18.5	10.2	5.8	:	35.5	21.7	28.6	26.4	7.6	20.5	10.0	18.3
1994 03	20.2	18.7	10.4	5.9	:	35.4	21.7	29.0	28.0	7.8	18.0	10.2	18.1
1994 04	20.0	18.6	10.3	5.9	:	34.6	21.6	28.5	28.5	8.0	:	10.5	17.8

Females

1993 04	20.9	22.0	12.4	4.4	:	41.6	25.1	26.4	36.0	4.1	14.5	13.3	12.5
1993 11	21.2	22.6	12.7	4.6	:	42.7	25.6	26.2	35.8	5.6	15.6	12.4	12.4
1993 12	21.3	22.6	12.0	4.7	:	42.7	26.0	26.6	35.9	5.6	16.9	12.8	12.1
1994 01	21.2	22.8	12.0	4.7	:	42.9	25.7	25.9	35.9	5.7	16.2	13.2	12.1
1994 02	21.2	22.9	12.1	4.8	:	42.8	25.8	25.6	36.0	6.1	15.6	13.4	12.1
1994 03	21.2	23.0	12.3	4.8	:	42.5	25.8	25.5	36.4	6.5	13.5	13.9	11.9
1994 04	21.3	22.9	11.7	4.8	:	42.5	25.9	25.3	37.1	6.8	:	14.5	11.9

Annex 10

Sectors most often represented in apprenticeship in the EU Member States

BELGIUM (1992)

Food industry
Textiles/Clothing
Wood
Leather
Metal
Gold/silver
Machinery
Electricity/Electronics
Precision mechanics
Construction
Painter/Decorator
Printing/Media
Glass
Health/Beauty care
Plastics
Horticulture and Forestry
Music instruments
Animal breeding
Retail sector
Wholesale sector
Others

Source: Institutes for the "Middle Classes"

DENMARK

The apprenticeship system provides training for the commerce and administration sector (in 1991 22,500 participants, approx. 45%), and for the technical trades (in 1991 26,000 participants, approx. 55%). New occupations are also covered by the 1990 VET reform. Approx. 60% of apprenticeships are in the tertiary sector.

Distribution of apprenticeship contracts 1984 - 1991

	1984	1985	1986	1987	1988	1989	1990	1991
Construction	13.7	14.9	16.2	16.8	16.4	16.4	14.3	14.1
Graphic arts	1.8	1.9	2.3	2.7	2.9	2.5	2.9	2.5
Metal	21.1	20.9	19.9	18.9	18.4	18.4	19.6	19.5
Agriculture	3.2	2.8	2.8	3.2	3.2	3.3	2.7	2.1
Transport	0.4	0.5	0.5	0.5	0.5	0.5	0.7	0.9
Food	10.0	10.1	10.5	10.5	11.8	11.8	12.5	11.2
Service	3.1	3.3	3.0	3.3	3.0	3.0	2.9	3.4
Commerce/ administration	46.7	45.7	44.9	44.1	43.7	43.7	44.8	46.0

Source: Ministry of Education

GERMANY (1992)

	Old Laender	New Laender
Industry and commerce	49,7	54,3
Crafts	33,8	33,7
Agriculture	1,8	3,0
Public services	4,5	3,3
Liberal professions	10,3	4,1

Source: Berufsbildungsbericht, BMBW, 1994, p. 55

GREECE (1993)	**No. of Entrants**
Pottery and ceramics	52
Gold and silversmith	80
Electrical technician	745
Motor electricals technician	65
Hairdressing	410
Textiles/clothing	190
Machinery	730
Motor engine technician	870
Internal combustion engines technician	25
Carpentry and furniture making	265
Metal constructions and welding	200
Bodywork technician	325
Graphic arts technician - Printing direction	30
Shipbuilding industry technician	55
Refrigeration	55
Watch and clock making	18
Plumbing and heating	410
Electronic appliances technician	-
Technician furrier	-
Mechanical, electrical and electronic draughtsmanship	30
Electronic automation technician	55
Maintenance and tool machine operation mechanic	20
Baking and confectionery	40
Fish farming	25

FRANCE (1992/93)

A. Industry and commerce:	No. of Apprentices
Building	7,550
Roofing, plumbing and heating	8,665
Painter	7,712
Metal construction	9,555
General + precision mechanics	18,343
Electrical/Electromechanical	7,900
Electronics	903

Printing, graphic industry, photography	2,517
Bakery, pastry making	17,418
Butcher/Abattoir operator	8,111
Other foods	1,496
Woodworking	9,334
Other trades	3,367

B. Services:

Office/administration	620
Accounting	315
Wholesale and retail	23,896
Arts and industrial design	1,184
Health and social services	9,491
Beauty care	18,652
Hotel/Restaurant	23,679
Other services	143

C. Agriculture

Source: Premières Informations, DARES, no. 360, août 1993

IRELAND (1992)	**No. of entrants**

A. Furniture

Cabinetmaker	93
Woodmachinist	44
Upholsterer	5

B. Construction

Carpenter/Joiner	605
Bricklayer	121
Glazier	5
Painter/Decorator	114
Plasterer	104
Plumber	286
Construction Plant Fitter	46
Electrician (Installation)	294

C. Engineering

Electrician (Maintenance)	448
Instrumentation Craftsperson	36
Fitter	373
Toolmaker	113
Sheet Metal Worker	66
Metal Fabricator	129
Welder	5
Refrigeration Craftsperson	30
Aircraft Mechanic	73

Motor Mechanic	419
Agricultural Mechanic	37
Heavy Vehicle Mechanic	62
Vehicle Body Repairer	35
D. Printing	
Printer	38
Originator	17
Carton Maker	5
Bookbinder	11
E. Hotel and Catering	1715
F. Agriculture	121

LUXEMBOURG (1994)

I. Food industry
Textile/Clothing, Health, Beauty
Engineering
Construction
Others, in particular Printing, Technical drawing, Driving instructor, etc.
II. Industrial trades
III. Service trades
IV. Hotel sector
V. Home economics
VI. Agricultural or horticultural trades

NETHERLANDS (1992/1993)

The number of newly concluded apprenticeship contracts per National Board at 31 December 1992 and 1993 follows below.

		Number of training contracts at 31 December: 1992	1993
01.	Craft occupations: goldsmithing, silversmithing, made-to-measure clothing and ceramic techniques	116	72
02.	Bakers	1,853	1,533
03.	Confectioners	1,051	957
04.	Security		
05.	Forestry, Cultivation and Green Sector (together with 19)	8,944	8,189
06.	Building	9,664	9,565
07.	Bodywork and coach building	2,293	2,181
08.	Ready-made clothing industry	1,006	786
09.	Distribution, retail trade and wholesale trade	10,136	10,099
10.	Economic and administrative occupations	8,693	8,075

11.	Electrical engineering	12,433	11,403
12.	Health technology occupations	1,168	1,170
13.	Graphics industry	2,783	1,872
14.	Docks and transport	898	660
15.	Catering, contract catering and institutional kitchens	6,466	6,394
16.	Wood and furniture	2,640	2,397
17.	Installation	7,263	6,683
18.	Hairdressers	5,899	5,358
19.	Agriculture and horticulture, open spaces and floristry sector (see 05)		
20.	Food technology		
21.	Metal	11,891	10,937
22.	Motor-vehicle and two-wheeler sector	12,751	12,448
23.	Process industry	5,685	5,463
24.	Shipping	732	786
25.	Painting and plastering	3,970	3,893
26.	Shoe and leather industry	64	33
27.	Butchery/meat sector	3,236	2,709
28.	Textile industry	(combined with 08)	
29.	Care and services	10,776	9,986
30.	Road and hydraulic engineering	2,326	2,242
31.	Road transport	2,627	2,590

Source: COLO

PORTUGAL (1992)	**No. of apprentices**
Food industry	940
Electronics	462
Machinery and metals	3887
Textile and dressmaking industry	423
Informatics services	1252
Fishing industry	1152
Automobile	1751
Ceramics and glass	64
Chemicals	84
Hotel and catering	1180
Refrigeration/air conditioning	142
Construction	1078
Graphic and paper industry	160
Wood and furniture	512
Electricity	89
Transport	110
Banking and insurance	376
Quality	49
Services	4100
Jewellery	840
Quarrying	40
Foundry	19
Energy	20
Cork industry	41
Footwear industry	15

Source: IEFP

UNITED KINGDOM (1992)

Industry Division	Number of Apprenticeships
Metal goods, engineering	58,000
Construction	66,000
Hotel and catering, distribution	57,000
Transport and communication	11,000
Banking and finance	21,000

In 1993 38% of apprenticeships were in the service sector, 18% in construction and 33% in production industries.

Source: Training in Britain 1993

Sectors which started delivering prototype Modern Apprenticeships in September 1994:

Agriculture and commercial horticulture
Business administration
Chemicals industry
Childcare
Construction
Electrical installation engineering
Engineering manufacturing
Engineering construction
Information technology
Marine engineering
Merchant navy
Plumbing
Polymers
Retailing
Steel
Travel services
Wool textiles

List of abbreviations and glossary

GENERAL

APL	Accreditation of prior learning	
CEDEFOP	Centre européen pour le Développement de la Formation professionnelle	European Centre for the Development of Vocational Training
EC	European Community	
EU	European Union	
EUROP	Office for Official Publications of the EC	
EUROSTAT	Statistical Office of the EC	
EURYDICE	European Education Information Network	
GNP	Gross national product	
OECD	Organisation for Economic Co-operation and Development	
NIT	New information technologies	
SME	Small and Medium-sized Enterprise	
UK	United Kingdom	
VET	Vocational education and training	

BELGIUM

FOREM	L'Office Communautaire et Régional de la Formation professionnelle et de l'Emploi Community and Regional Office for Vocational Training and Employment

Institutes of Continuing Training for the "Middle Classes"

Non-profit-making organisations in the French and Dutch-speaking Communities. Their activities cover initial training, and continuing training for craftsmen and workers in small and medium-sized and self-employed businesses (with less then 50 employees), including employers and managerial staff. In Dutch VIZO institutes.

RVA/ONEM	Rijksdienst voor Arbeidsvoorziening/Office National de l'Emploi National Employment Office
VDAB	Vlaame Dienst voor Arbeidsbemiddeling en Beroepsopleiding Flemish Office for Placement and Vocational Training
VIZO	Vlaams Instituut voor Zelfstandig Ondernemen Flemish Institute for Self-employed Businesses

DENMARK

AER	Employers' Reimbursement Fund for Trainee Wages	

FRANCE

BAC PRO	Baccalauréat professionnel	Vocational baccalaureate
BEP	Brevet d'etudes professionnelles	Craft certificate
BTS	Brevet de technicien supérieur	Advanced technician's diploma
CAP	Certificat d'aptitude professionnel	Craft certificate
CFA	Centre de formation d'apprentis	Apprentice Training Centre
CPA	Classe préparatoire à l'apprentissage	Pre-apprenticeship class
DUT	Diplome universitaire de technologie	University diploma of technology (Bac+2)

GERMANY

ABITUR		University entrance diploma
Berufsschule		Vocational school
Berufsfachschule		Full-time specialised vocational school
BIBB	(Bundesinstitut für Berufsbildung)	Federal Institute for Vocational Training
BMBW	(Bundesministerium für Bildung und Wissenschaft)	Federal Ministry for Education and Science

GREECE

OAED	Manpower Employment Organisation	

IRELAND

CERT	State Tourism Training Agency	
FAS	Foras Aiseanna Saothair	Training and Employment Authority
NTCB	National Tourism Certification Board	
RTC	Regional Technical College	
TEAGASC	Agriculture and Food Development Authority	

ITALY

CENSIS	Centro Studi Investimenti Sociali	Centre for Social Investment Studies
ISFOL	Insituto per lo Sviluppo della Formazione professionale dei Lavoratori	Institute for the Development of Workers' Vocational Training

LUXEMBOURG

CATP	Certificat d'aptitude technique et professionnelle	craft certificate
CITP	Certificat d'initiation technique et professionnelle	introductory qualification
CCM	Certificat de Capacité Manuelle	introductory qualification of practical competence

NETHERLANDS

COLO	Centraal Orgaan van Landelijke Opleidingsoganen	Central Office of the National Industrial Training Organisations
HAVO	Hoger Algemeen Voortgezet Onderwijs	Upper general secondary education
LBO	Lager Beroepsonderwijs	Lower secondary vocational education
MBO	Middelbaar Beroepsonderwijs	intermediate vocational education
MAVO	Middelbaar Algemeen Voortgezet Onderwijs	Lower general secondary education
MBO	Middelbaar Beroepsonderwijs	Upper secondary vocational education
VBO	Voorbereidend Beroepsonderwijs	pre-vocational education

PORTUGAL

IEFP	Instituto de Emprego e Formação Profissional	Employment and Training Institute
MESS	Ministério do Emprego e da Segurança Social	Ministry of Employment and Social Security

UNITED KINGDOM

BTEC	Business and Technician Education Council
CBI	Confederation of British Industry
C&G/CGLI	City and Guilds of London Institute
CITB	Construction Industrial Training Board
CLMS	Centre for Labour Market Studies
EITB	Engineering Industrial Training Board
GNVQ	General National Vocational Qualification
ITB	Industrial Training Board
ITO	Industry Training Organisation
LEC	Local Enterprise Company, Scottish equivalent of the TEC
NCVQ	National Council for Vocational Qualifications
NIESR	National Institute of Economic and Social Research
NVQ	National Vocational Qualifications
RSA	Royal Society of Arts
TEC	Training and Enterprise Council
TUC	Trade Union Congress
TVEI	Technical and Vocational Education Initiative
YT	Youth Training
YTS	Youth Training Scheme

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* Not yet published in English at the time of writing but available in manuscript form.

CEDEFOP — European Centre for the Development of Vocational Training

Apprenticeship in the EU Member States

A comparison

Martina Ní Cheallaigh
CEDFOP, Berlin

CEDEFOP Document

Luxembourg: Office for Official Publications of the European Communities

1995 — 100 pp. — 21.0 x 29.7 cm

ISBN 92-827-4265-2

Price (excluding VAT) in Luxembourg: ECU 8

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